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Amateur Televison Quarterly

A Tribute To: 1925 - 2008

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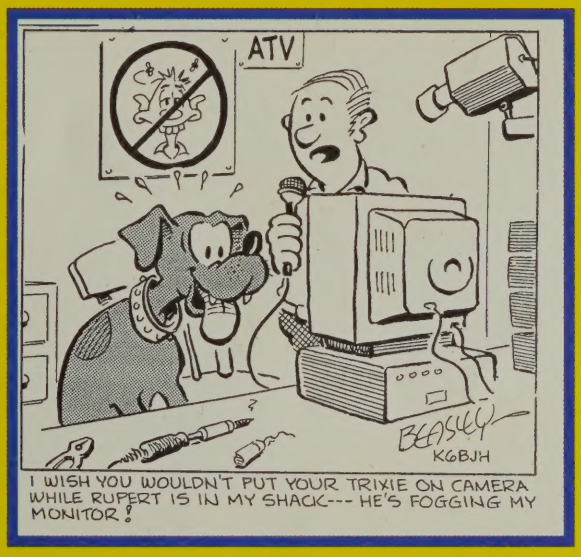

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Green Boards & ATV
Activities in Dayton
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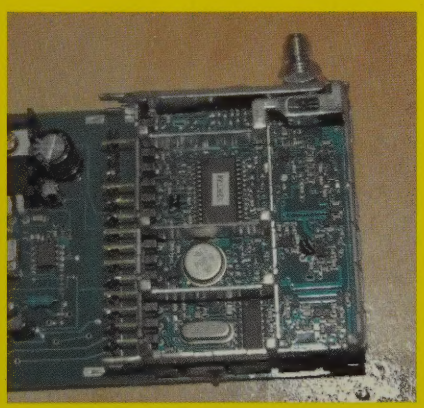
Add A Ticker To Your Video



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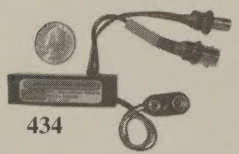

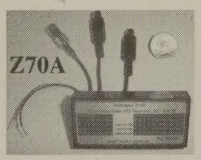

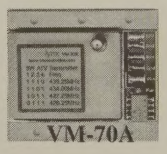

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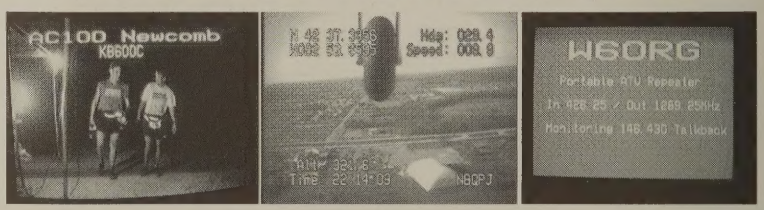

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AMATEUR TELEVISION QUARTERLY

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Amateur Television Quarterly

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Editors Notes

I hate to start off my notes this way, but I have decided to inform the readers of ATVQ some details of my health problems. I was diagnosed on January 3rd, 2008 with ALS. If you are not familiar with ALS it is:

Amyotrophic lateral sclerosis (ALS), often referred to as "Lou Gehrig's disease," is a progressive neurodegenerative disease that affects nerve cells in the brain and the spinal cord.

I am not going to go into more detail as to what it is, but you can find more about the decease at: http://www.alsa.org/

The reason that I decided to go "public" with the information is that some of you already know, others will meet me at the Dayton Hamvention (no booth this year), and word spreads and I would prefer to talk about it openly. If someone wants to talk about it at Dayton, or anywhere we meet, please feel free to bring the subject up as I am willing to discuss how I feel and answer any questions that you may have. I promise not to drag out the conversation and bore you to death.

Another reason that I wanted to be out in the open is that there may be some of you that wonder about what will happen to ATVQ when, someday, I can no longer do what it takes to produce the copy. I am still hoping that it will be many years before I have to give it up as I enjoy doing it, and it does allow me to buy my toys! However, I am interested in finding out who would be interested in being editor when the time comes. If you have an interest in doing this some day, email me at **atvq@hampubs.com** and let me know. I hope that I never have to give it up, but if I do, I hope to have a list of names to choose from and can pick whom I think will be the best.

How am I now? Not too bad. My left leg does not have a lot of strength and I walk with a walker or a cane. My left arm is showing some weakness, and my speech is more slurred when I am tired. I still work at Arachnid, Inc (I have had callers that think this magazine is a full time business - not), and plans "were" to retire in three years at age 66. Plans do change and I am still deciding what route that I will take. I have an option to go on partial disability and may do that at some point.

And I have so many projects around the house to work on, but don't we all! I love to play (at whatever), build things, still playing my tuba (although others carry it to my seat so I don't fall), and still sing in the choir at church.

So, I hope to see many of you at the Dayton Hamvention. I will be saying HI to the many friends that I only see once a year there and taking time to visit the many forums that I have had to miss in the past due to having a booth.

Thanks for all your support!

Gene - WB9MMM
ATVQ

Add A TICKER To Your Video

A Video Crawl or a "Ticker" is a graphic that appears across the screen with a color background with text that "Crawl" across the top of it.

I have found a simple crawl program on the internet called EZ Desk Ticker. This program creates a video bug with any color background with a choice of any computer fonts. This program will produce a crawl using a simple window interface. It also can pick up any RSS feeds on the internet. A RSS feed is s stream of data that is sent continually from a web page or source. These feeds can then be selected and placed into the crawl.

I have built a computer that has a video board that has two video display screens. The first screen is a VGA and the second is a NTSC SVHS video out. The EZ Desk Ticker or for that matter any computer generated graphics can be displayed creating a video source for luminance keying. This signal would have to be processed into a Frame Sync. The video would be sent and processed as a luminance key source that will appear on top of the program video. The frame sync is locked to any video sent to the transmitter, ID, receiver output etc.

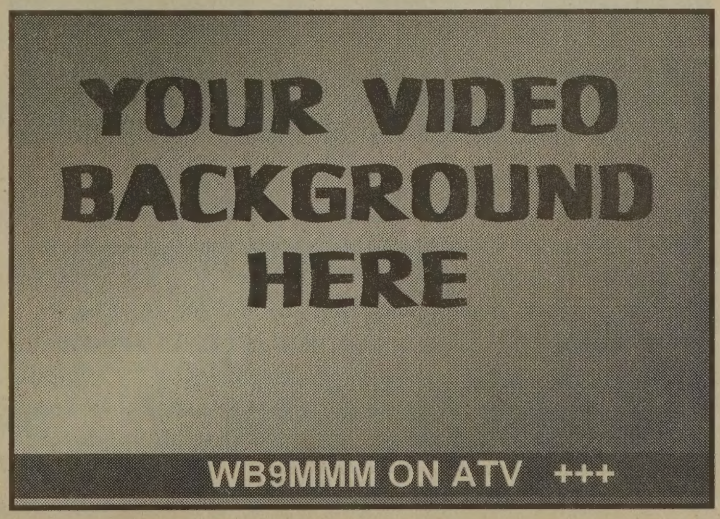
Having this in place, the system can be set up for keying crawls. The operator can open the computer screen and select any RSS data streams that would be crawled. The operator can also manually type in the dialog box and run that crawl manually.

RSS feeds can be from any source on the internet. Within our web pages we could also create these RSS crawls and publish the content on our web pages.

They can include: weather alerts, traffic alerts, emergency info, club info, ham news, meeting notices, or text messages with your video (graphical ID, etc).

Henry, AA9XW - **A9xw@cs.com**

Download at:
http://www.mn-software.com/easydeskticker.html



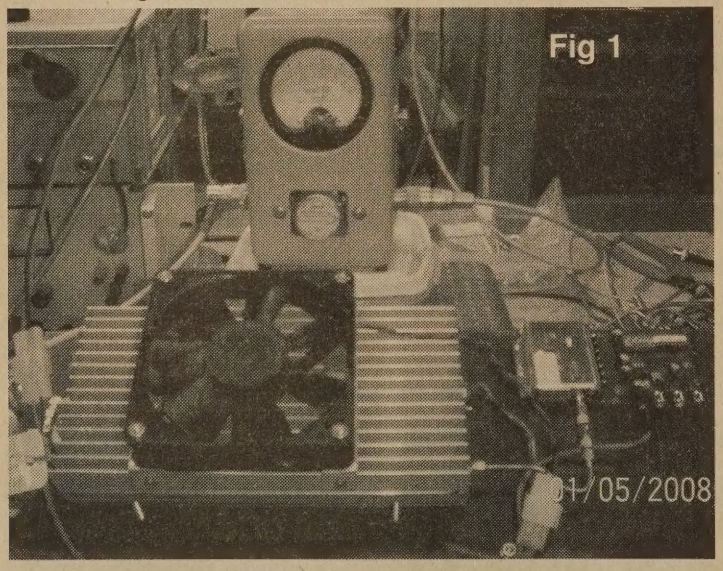
Green Egg's & Ham From Childhood, How About Green Boards & ATV For Us Grownups?

By: Dave Stepnowski, KC3AM Email: kc3am@verizon.net
735 West Birchtree Lane
Claymont, DE 19703

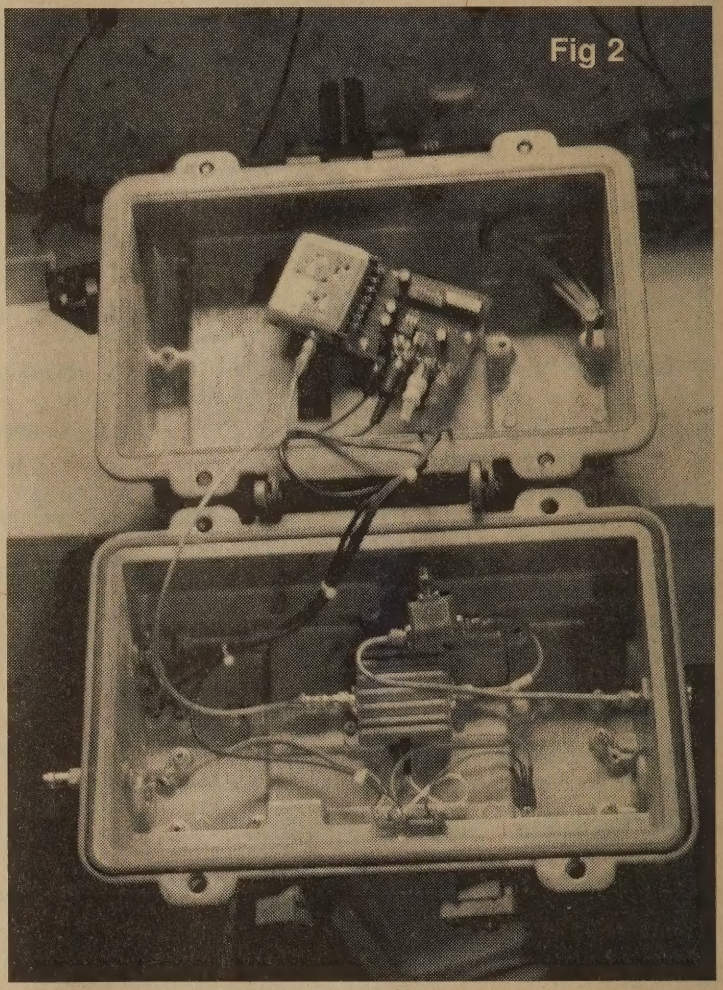
Yes, I love them too. Love what you ask? These little green Comtech Boards that are so easy to work with. I have purchased a variety of these boards from Gene at Harlan Technologies with his firmware and I am having fun and success with them. My first experience with them was from G1MFG about four years ago and fell in love with them then. These boards were written about in the last issue of ATVQ and I have to agree with the author on his uses, which I have also done. This author has mentioned MobiComm as his source but they also offer a controller, which I will talk about later. To those who have not experienced FM video you are missing out on an easy way to get a potentially potent signal on the air.

Transmitter Ideas

Here in Wilmington, Delaware we have a cross band ATV repeater using a FM1200TSIM (1.2 GHz) module that drives a Downeast Microwave 2330 amplifier just fine for the repeater output (fig.1). We are using this at about 100' on top of an old microwave tower with 20' of 7/8' hard line to a Comet vertical. This works great and is also used as a link to the W3PHL ATV



repeater in Philadelphia, PA 35 miles away. The two audio channels will carry local 144.34 talk on one channel and control audio on the other. Going south from Wilmington, this same signal is received at the Bayview, MD site about 55 miles away for the same purpose. Coming back from the W3PHL site I have a FM2400TSIMG (2.4 GHz) module in an old CATV amplifier housing (fig. 2) which drives a 1-watt amplifier that I purchased from P.C. Electronics. This package is then mounted at the rear of a corner reflector antenna for negligible feed line loss for the return 35-mile trip.



Lets not forget the FM950TSIMG (900 MHz) transmitter either. I have mated this up to an amplifier I found at a hamfest sometime somewhere and have about 25 watts for another band to use for linking. Not too long ago on Ebay I found a 300-watt surplus Motorola amplifier and thought I would give it a try. Using the FM950TSIMG module I drive a Downeast Microwave 3310 amplifier to the five watts needed for the 300-watt amp. I now have 80 watts on 910.0 FM with two audio channels for whatever I want to use it for. If I wanted to modify the amplifier I could probably do better but I am happy with this for now. These boards are small enough and light enough that they can be used almost anywhere and using only 500 ma of current is icing on the cake! I know using our 900 band is rough but it is doable.

Receiver Ideas

Here at home I am using the FM1200RTIM module to receive the repeater output. I have an 18-element loop yagi on the roof

and 90' of RG 6 CATV cable for the feed line. I am looking into a tree in the my back yard then the neighbors house before the five miles to the repeater which has an elevation about 400' higher than me. There is no preamp and for the most part I have a P5 picture (fig. 3). These receivers seem to be very sensitive and free of interference problems. I am using the same receiver in my truck and have relatively good luck receiving the repeater mobile with no preamp.

We have used the FM1200RTIM as the receiver at the Bayview, MD site with success. We have a Comet antenna at 400' with about 450' of 2 1/8" hard line into the shack. With just a DCI filter and no preamp we have a P5 picture at 55 miles away from the transmitter. We also use the FM1200RTIM as the receiver at the Darby, PA site, which is 15 miles away from Wilmington and again just a DCI filter and no preamp we have a P5 picture.

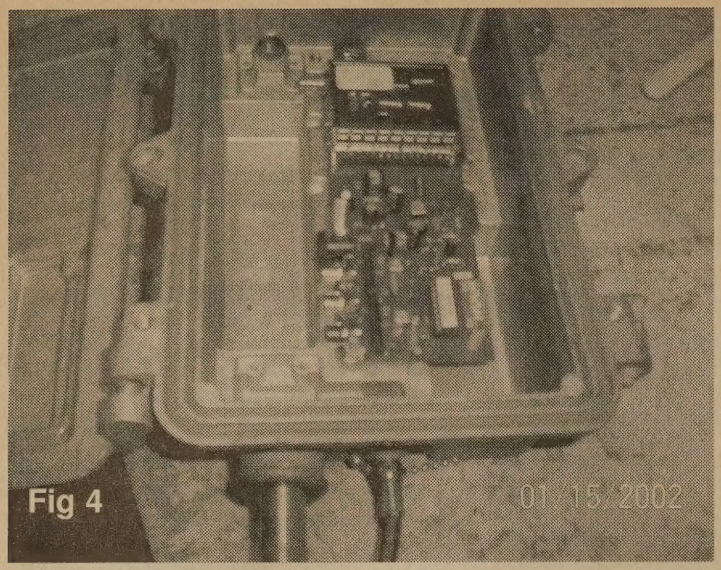
CATV Enclosures, remote mounting & TANSTAAFL

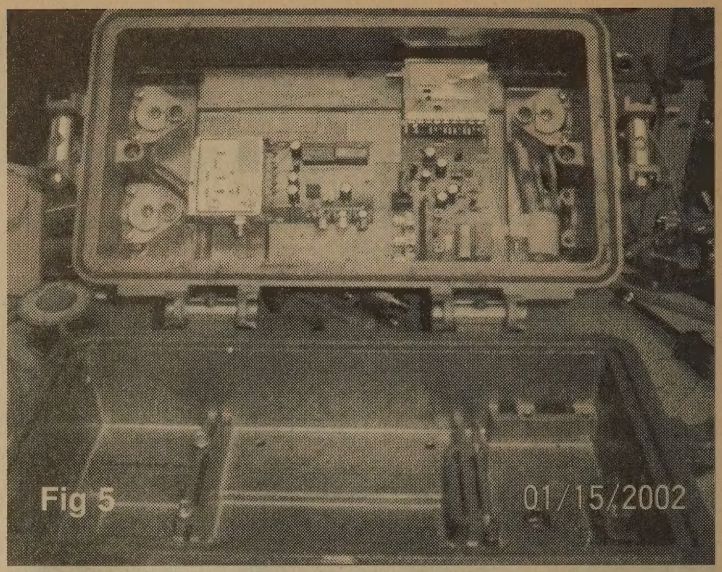
I am rather fond of using surplus CATV amplifier housings for projects like this. They are RF and watertight for the most part, have mounting brackets on them and the threads used on the connector ports are the same threads as N, PL 259 & 4 or 8 pin microphone connectors. This is great but this is where TANSTAAFL comes in... there ain't no such thing as a free lunch. You will have to do some machine work inside these CATV housings to get the connectors to fit and be useable inside but this is part of what we do isn't it? This can be as simple as a grinding tool of some sort to get some of the aluminum out of the way. There are even embedded threaded holes for mounting our stuff in that may be useable. Some housings also have test ports that are "F" connectors. These could be used for Video / Audio in or out and 12VDC for power for a receiver. RG-6 is much more affordable than anything else as feed line so why not use it. The larger housings could possibly hold a small PA inside along with the transmitter with the intent of being mounted close to the antenna to minimize feed line loss. This could be fed with 9913 or 213 or similar coax for the DC which is still an expense but all the RF goes to the antenna and is not lost in the feed line. I will be working on this idea for a 40-mile link possibly on 1.284 GHz this summer (fig. 4,5).

The Blue Box Project

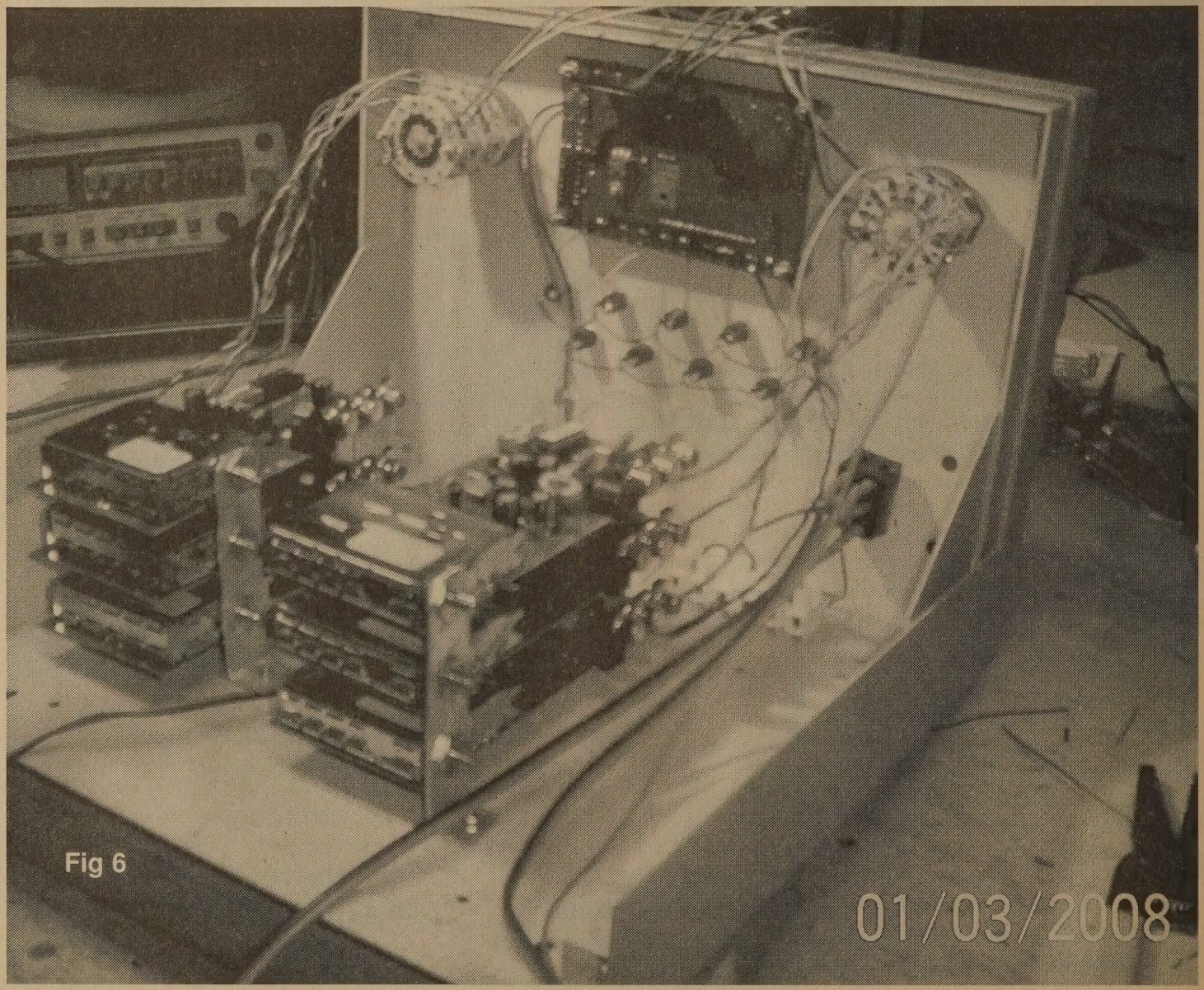
I confess to having about 14 of these green boards as I like to have stuff "in stock" when I get another idea. One of these ideas has resulted in "The Blue Box Project" for lack of another name at this time.

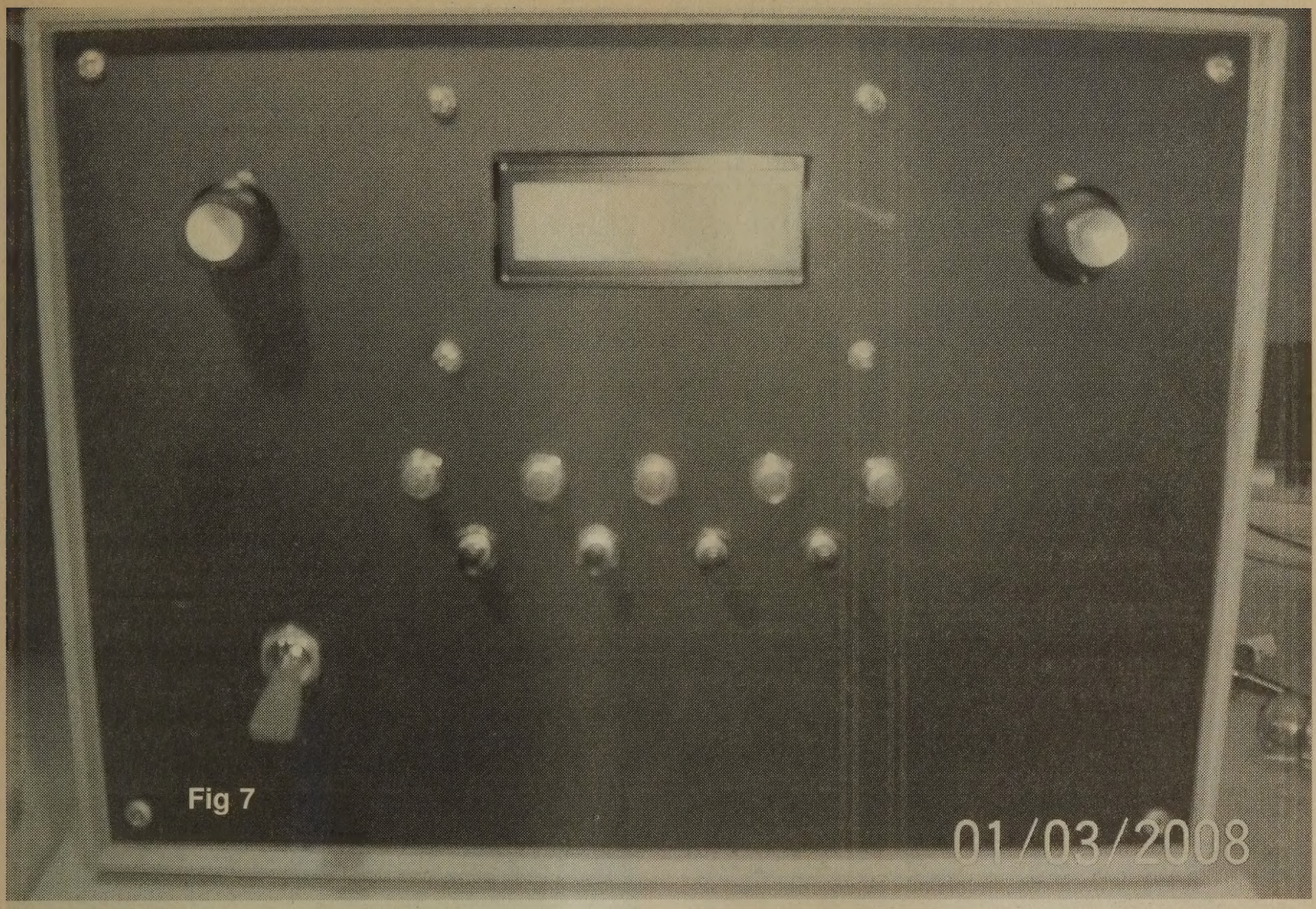
Passing various ideas to my partner in crime, Vince N3BFZ, we are constructing what we call the Blue Box since Vince painted it blue. With the masterful skills of Vince doing the layout, hole drilling and all machine work we have a versatile piece of test equipment as well as a cross band repeater. MobiComm has a controller for these Comtech boards and we have put it to good use. This controller requires that the PIC chip be removed on each board and simple wiring to be done to the controller from the board.





What we have done is mount a transmitter and receiver board for all three bands in a box (fig. 6). The front panel has the MobiComm controller LCD display and its controls (fig. 7). We have a three-position switch for the transmitter boards and one for the receiver boards. This enables the choice of any one transmit or receive board to be controlled by the controller at the





same time. The rear of the box has "N" connectors for each board and colored phono jacks for the video and two audio channels (fig. 8). My primary intent for the Blue Box was to have a readily available signal generator for FM ATV to test receivers and amplifiers as well as having a receiver to look at a transmitted signal. So far this idea has helped here on the bench since I don't have the luxury of owning a signal generator or service monitor. Further ideas will add a VOR board from P.C. Electronics and an on screen ID board from Intuitive Circuits.

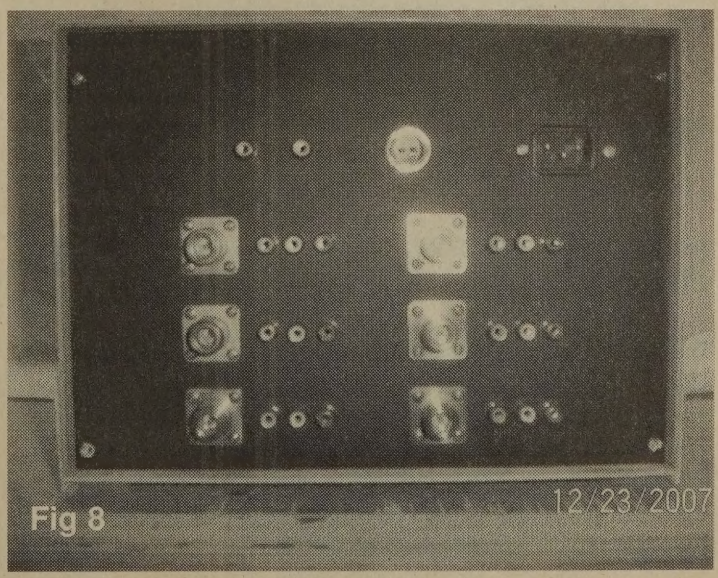
Blue Box repeater...

Since the original idea has worked out well we started thinking again of what else to do. The box had a handle on it from the previous life so carrying it was easy so why not use it for a portable repeater. With the addition of the on screen display for ID and a VOR board the idea of a cross band repeater is within reach. Amplifiers would have to be added to have a useful signal, and antennas for the chosen bands could be placed wherever needed to help keep interference to a minimum. We have AC or DC power capabilities so either on a street corner or on a rooftop we are good to go and add a small battery and now you have portable operation. This would be something versatile and easy to carry somewhere and be able to set up without too much hassle.

What's next?

You tell me what other uses these little green boards can be used for. I am open for suggestions, comments and criticism. I can be reached at **kc3am@verizon.net** and will see you all at Dayton at the ATN booth.

ATVQ

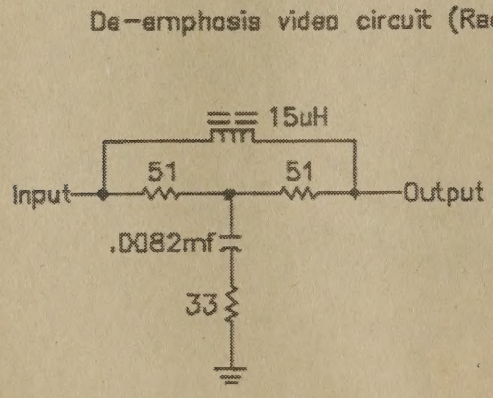


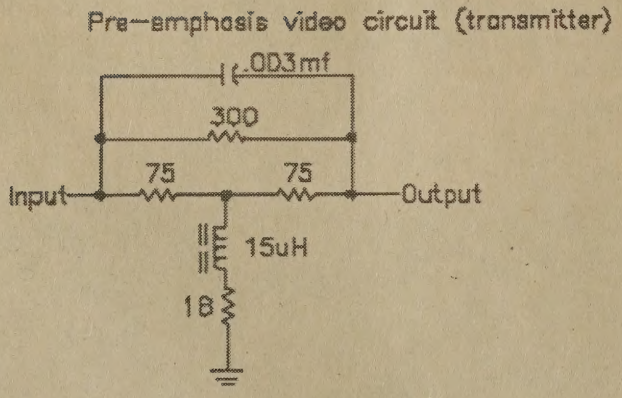
Comtech Receiver Improvements 1.2 and 2.4 GHz

By Mike Collis, WA6SVT Email: WA6SVT@aol.com
POB 1594
Crestline, CA 92325

Comtech Technology LTD has demo boards for 900 MHz - 2.4 GHz bands utilizing FM modulation. Many ATVers are using the boards and several have complained about QRM and less than desired operation. The receivers were designed (900 MHz – 1.2 GHz) for use as the tuner and demodulator in DBS satellite receivers. As most know, satellite deviation is 11 MHz while terrestrial FM video for broadcast and industry is 4 MHz deviation.

The receiver evaluation boards do not include pre-emphasis on transmitter unit or de-emphasis on receiver unit. Art Towslee, WA8RMC, has a circuit to take care of the emphasis issues. This will improve the signal to noise performance of the boards by several dB.





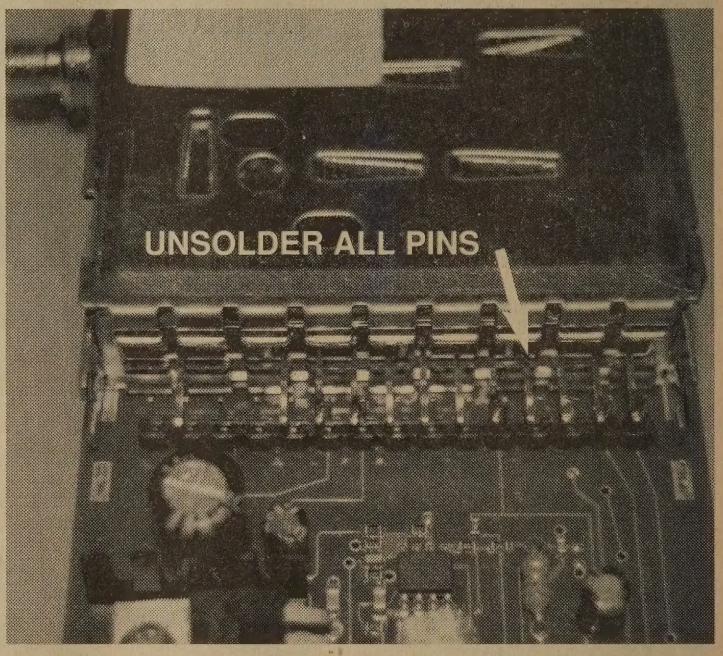
Art Towslee's, WA8RMC, circuit for pre-emphasis and de-emphasis

The transmitter as shipped is about 6.5 MHz and should be reduced to 4 MHz deviation utilizing the white pot on the TX board, this should be done with the pre-emphasis circuit in line. The receiver is then adjusted for 1 volt p-p with a video test signal modulation stair step sync tip to peak white utilizing the white pot on the RX board. This adjustment also needs to be done with the de-emphasis circuit in line.

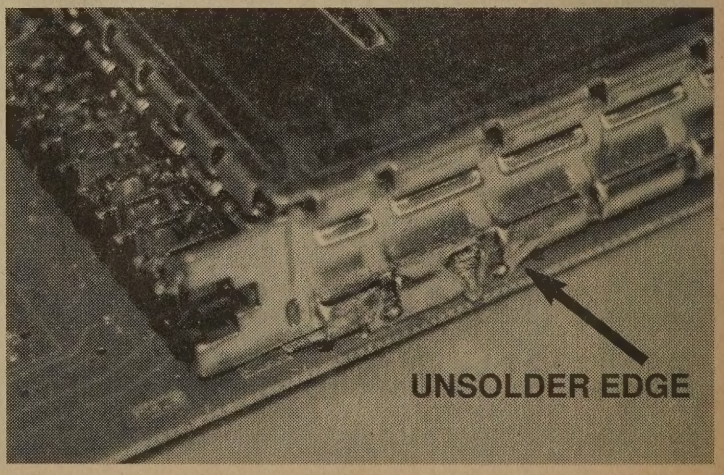
I did notice that the differential phase and gain specifications improved with the reduced deviation of the system, most likely in the more linear range of the VCO.

The receiver uses a 27 MHz wide 479.5 MHz SAW IF filter. This is way too wide for terrestrial use. This lets half the band in and on the 900 MHz band lets in the entire band plus paging band just above 928 MHz. The solution is a narrow IF filter. ECS-D480A, a 17 MHz wide filter. Available through Digikey, P/N XC993-ND for $2.25 each. Mouser should also have them.

Now for the surgery on the receiver board: Unsolder the pins (note: not all the pins are soldered or need to be).



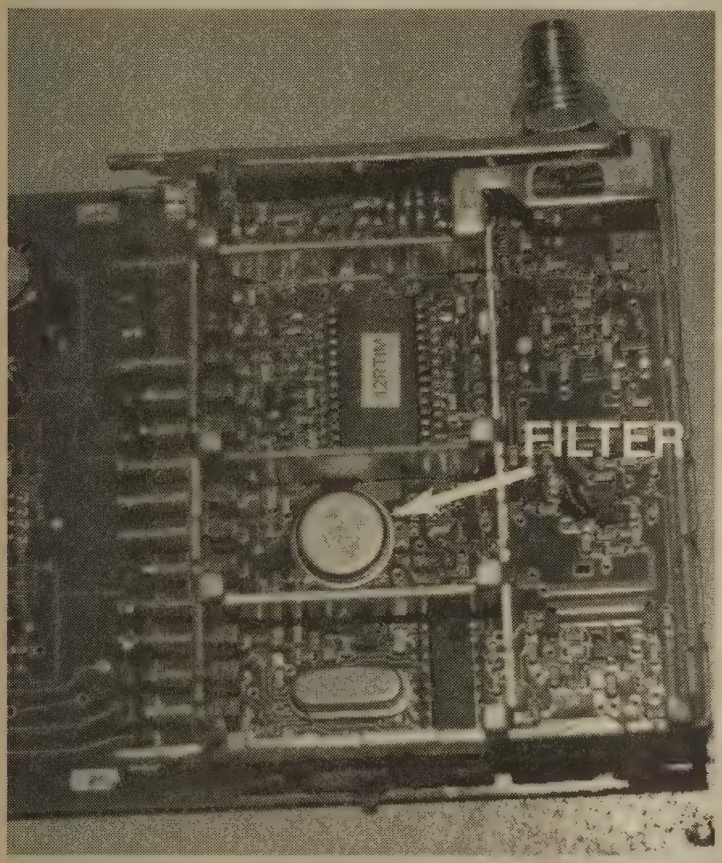
Next unsolder the two sides of the tin can where it is attached to the board, get as much solder out as you can.



Using a small blade screwdriver gently pry up the can to break free from the board. The pins should pivot then break loose where it was soldered.

Take off the top and bottom lids noting how they came off.

Locate the T0-5 can inside, it looks like a 2N2219 metal transistor, see the photo.



It is best to use a desoldering iron with lots of suction but wick or a manual solder sucker can do it as well. Unsolder the input and output pins (the outer ones) first. Make sure the leads are clear and no longer soldered to the board.

Filter top and bottom

The ground pin is a bit more difficult as the board has a ground plane on both sides which sucks the heat away. In my case, I was not able to get all the solder out so I put the tin can in a PCB vise and used the soldering iron to heat the lead and board and pulled the top side of the can with needle nose pliers to get the filter out.

As we know, duct tape has many uses. I used a small piece to hold the filter and guide it into position. (Ed)

I then took out the rest of the solder from the ground pin hole. Insert the filter and solder in place. Put the tin can back together and install back on the board making sure to get the pins pack in the right order and then solder the pins and the lid back to the board.

Power up the receiver and you are done. The video output level should not change with new filter and you should be ready to go. This new filter is ½ MHz off center and with 17 MHz bandwidth, should make no difference using 4 MHz deviation, in fact it may help a bit as the local oscillator is on the high and will reverse the sidebands at IF and get you an extra 500 KHz further away from the top end of the band were the NBFM voice repeaters are located.

There are some 479.5 MHz 17 MHz wide filter, but ordering from the manufacture required a 1000 lot order. Sensitivity is increased due to narrower noise floor presented to the IF and demodulator. I measured more than 2 dB. Selectivity is where you will get the best benefit from adjacent activity and radar (1.2 GHz band).

In the ideal world, I would want a 14 MHz bandwidth filter centered on 479.5 MHz but this is a vast improvement over a 27 MHz wide IF. I hope this will be helpful for you to improve on your FM ATV equipment.

ATVQ

ATVQ: I have purchased a few filters and will sell them for $5.00 each plus $1.00 shipping. This may help those that do not want to buy $25 of stuff from Digikey to meet the minimum order. If you are ordering other parts from Digikey, that would be the place to buy them as the price would be less.

If you do the mod, let us know the results!

Gene - WB9MMM

Converting The Bird Model 43 Wattmeter Slug For Use As A Inline Video Detector

By: Ron Stefanskie - W9ZIH
17913 Willrett Rd.
Malta, IL 60150

If you have a used or defective Bird wattmeter, it could be easily converted for use to monitor complex video signals on an antenna transmission line, with about 1 volt peak to peak terminated video output.

The first step necessary to disassemble the slug is to peel of the name tag identification on the top of the slug. Use a sharp pointed blade working around the metal tag until it can be completely undone as per photo 1.

Photo 1

Now the screw in the center of the slug can be unscrewed and will allow for disassembly.

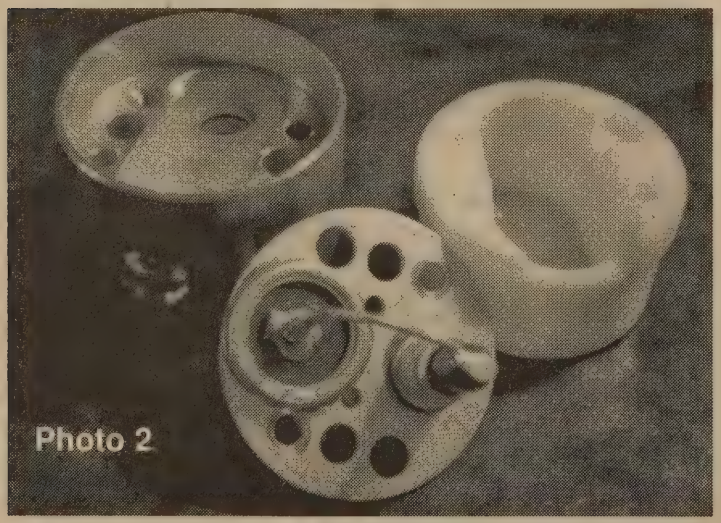


Photo 2

The next step is to remove the bottom teflon portion of the slug by removing the two small screws above the teflon housing inside the slug on the older models.

With the newer slugs, the teflon portion can only be removed by slowly and carefully prying a small portion of the teflon inward with a pointed tool and lifting the teflon bottom from the metal housing.

After having the slug disassembled, it is necessary to remove all of the components except for the enclosed terminating resistor. Photo #2 shows the disassembled slug before modification.

The original button feed thru capacitor has to be removed from the mounting plate by heating the plate and prying off the capacitor and then cleaning the surface of the plate.

All of the insulators, locking tab, etc will not be needed for this project.

To convert the slug, a 100 pfd feed thru capacitor will now be soldered in place of the original larger capacitor that was removed. A HP #5082-2835 step recovery high frequency diode or equivalent can now be installed looped from the terminating resistor and the feed thru capacitor as shown in photo #3.

Photo 3

Next is to construct a "L" bracket to fit on the top of the slug with a BNC connector mounted on it with a 15 ohm terminating resistor across the connector.

A wire lead is then soldered to the bottom of the feed thru cap and run thru the hole on the top plate to the center pin of the connector as shown in photo #4.

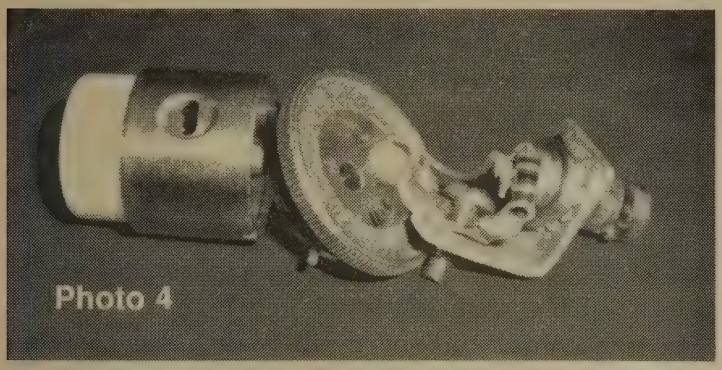


Photo 4

The mounting plate can now be installed into the slug by the two small screws as shown in photo #5.

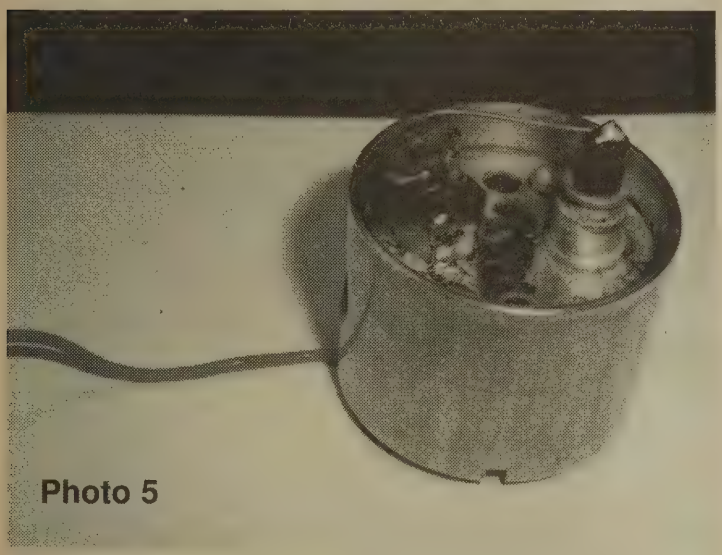


Photo 5

Two more views of the the completed modification is shown in photos #6 & #7.

ATVQ

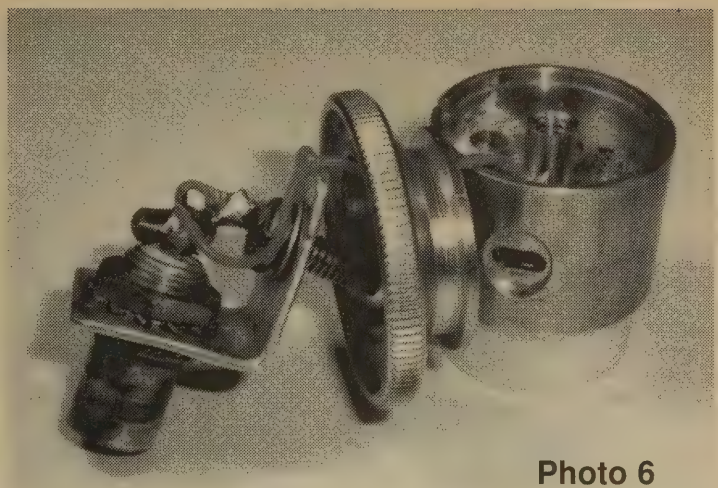


Photo 6

Photo 7

ATV Newsletter

If you are not aware, Bryon Foster (**bryonfoster@hotmail.com**) has an email newsletter about events having to do with ATV. The most recent issue had topics of:

In this Edition:
* World News this Week
* Video over IP Linking
* ATV Open House/ ATN So. Cal.
* Digital-ATV* Buy-Sell-Trade LOTS
* ATV Guide
* ATV Website Guide
* Internet Viewers
* This weeks Joke
* Local News
* KA6JJH via 2.4 GHz
* Repeater Reports
* Repairs Needed
* Letters to the Editor

If you are not already a subscriber (it is FREE), send an email requesting to be added to the list to:
atv-newsletter@hotmail.com

It is always intersting to read and even has For Sale items. Also there is a list of those doing ATV over the Internet.

Sign up today!

Gene - WB9MMM - ATVQ

ATV At 1M/5K Charity Run In Baton Rouge

By: Steve Raacke, KC5SAS - Email: cellblock776@yahoo.com
1357 St Francis Lane
SAINT GABRIEL LA 70776

I went out Saturday morning with members of the Baton Rouge ARC and provided communications along the route of a charity run. As usual I took the ATV gear with me. Using a 3 watt AM UHF ATV transmitter means you aren't going to reach too far but I was able to send some decent video back to the finish line from my position about 1/4 mile away despite dense trees and houses.

Steve's ATV Station on March 1, 2008

This is the third page in a series documenting my use of Amateur Radio Television gear. To see the first two pages go to **http://www.geocities.com/sraacke/atv** and **http://www.geocities.com/sraacke/atv2**

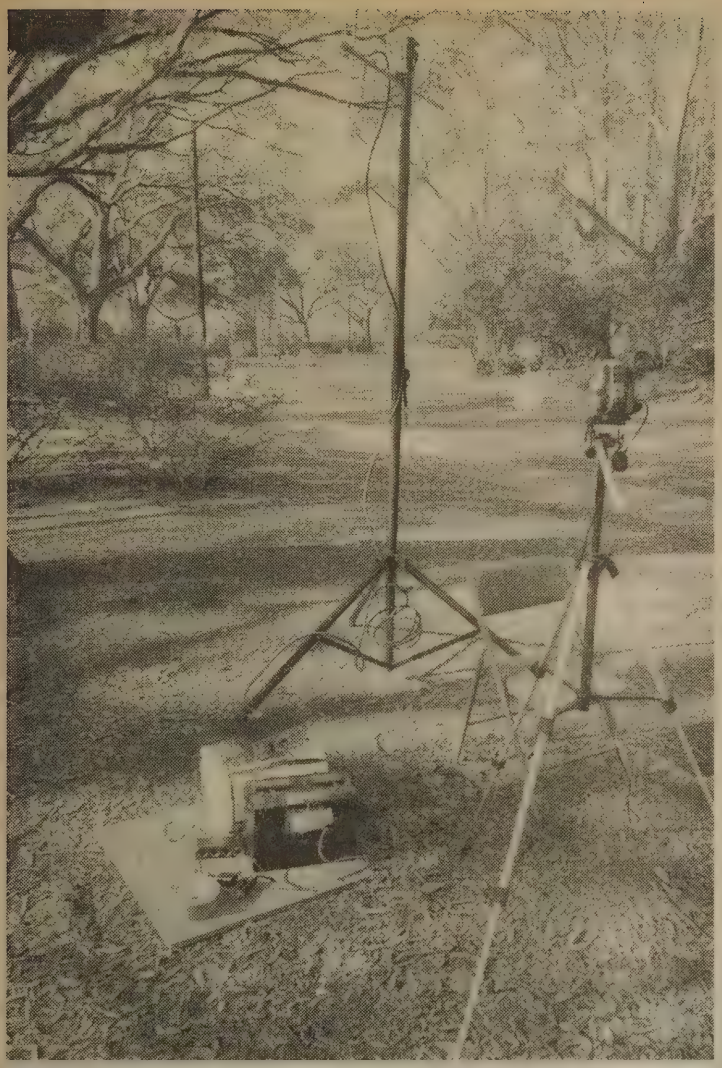
On February 7, 2008, I received an Email from Jim, N5IB regarding an upcoming Public Service event the Baton Rouge Amateur Radio Club would be participating in. It was a 1mile/5K run to raise money for Alopecia Areata research. Over the next couple of weeks ham radio volunteers signed up and we received our assignments. I was assigned to Station 7. A great location for my ATV station about a 1/4 mile from the finish line.

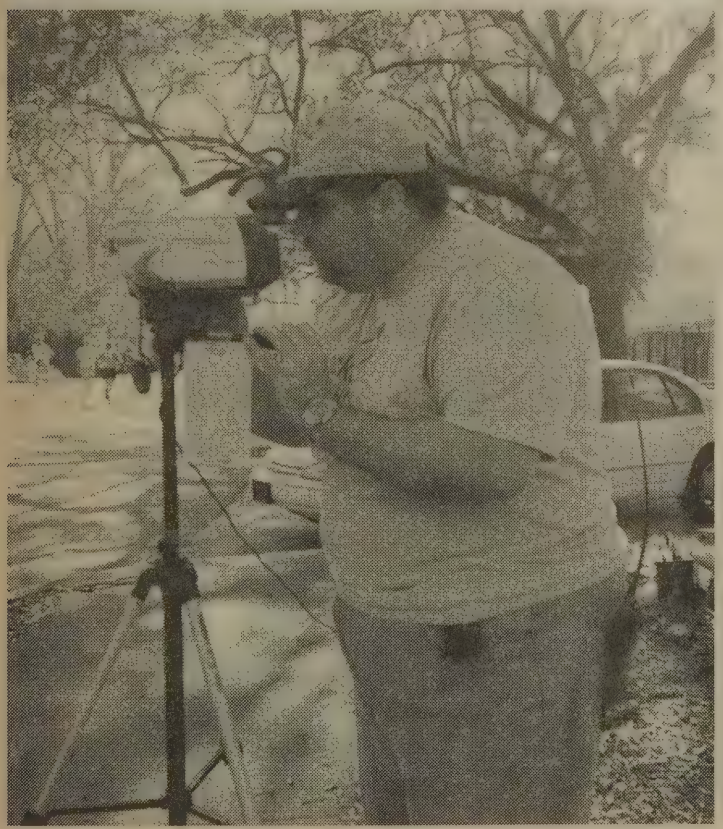
My receive station was a bit different this time. I decided to use a larger, 19 inch, TV and place the station outside where it could be seen by staff and participants. I also used a yagi antenna made by Keith, KB5OLB. Between the TV and antenna I placed a cable ready VCR so I could record my broadcast for later review. I needed a mount for the antenna and Jim, N5IB had just the thing I needed. My partner, Tena, KE5ECF, volunteered to man this station. We set up just a few feet from the finish line in hopes of providing a good display. Within a couple of hours more than 500 runners would pass her location.

I arrived at Station 7 and set up my transmit station. I found a

spot right on the intersection but was not able to get my antenna very high due to all of the oak tree limbs. Tests with Tena resulted in a picture of about S3 quality. Snowy, B&W with some moments of color but readable. Though we were only about 1/4 mile apart the trees and houses caused the signal to be worse than I had expected.

Also, I had not accounted for the glare of the early morning sun on the receive TV and Tena reported that she was having some difficulty seeing the screen because of the sunlight. On future events we plan on using a shade of some type to shield the TV.





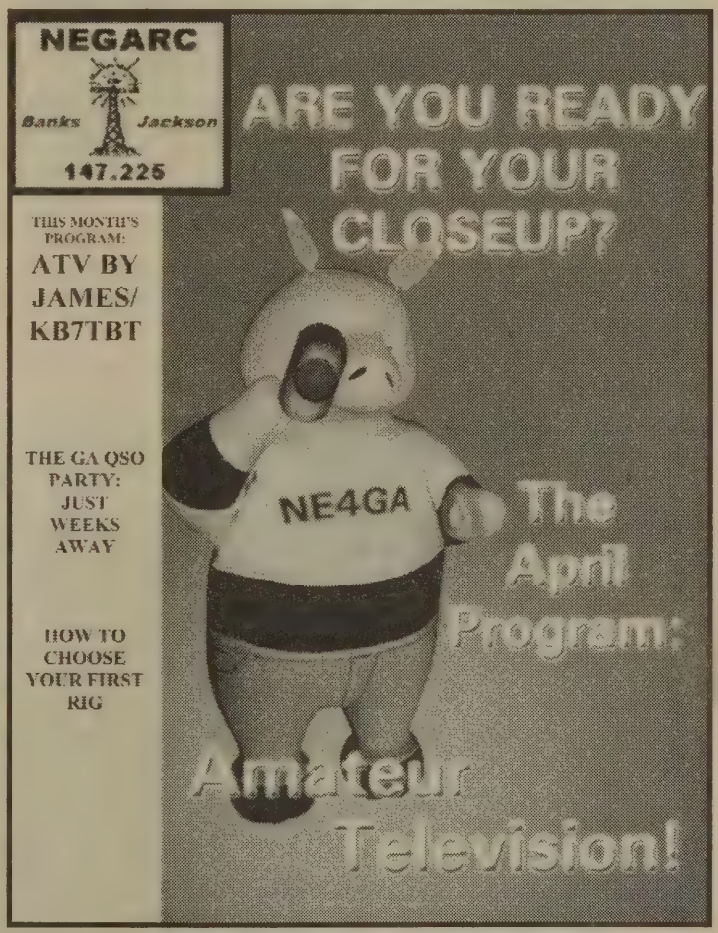
The first runners started at about 8:30am. Soon I had crowds passing my location. It was a beautiful morning for ATV.

I filmed runners for a little more than an hour before the event finished. It was a short day and, except for some minor problems, a good chance to show off the ham radio hobby and ATV.

By 10:30 AM Tena and I had packed everything back in my car and we were saying our farewells to the other ham radio operators. We learn something each time we use the ATV station and are looking forward to several events planned for later this year.

After arriving home I played back the video from the receive station and used my digital camera to capture about 25 seconds of footage as an example of what my signal looked like at the finish line.

ATVQ



KB7TBT Does ATV Demo

The ATV Demo went great! I had real fun!

Here is the April NEGARC Newsletter, Check out Hammie on the cover!

James
KB7TBT
www.kb7tbt.com

Stereo To Mono Audio Amplifier

By: G. Sattler, DJ4LB
Translation by: Klaus Kramer, DL4KCK

Modern AV devices like camcorders have stereo audio as standard. But which of the two channels should we transmit on our mono audio ATV signal? The best solution is this module shown below.

Circuit drawing

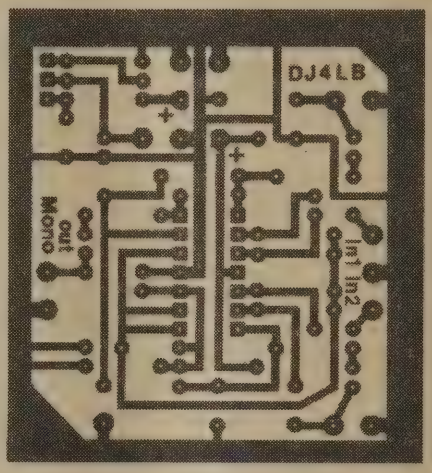
"Bild 1" is showing IC1 with two op-amps for stereo inputs "In1" and "In2", the gain is set by resistor values R1 and R2. Another op-amp is summing up both channels to the mono output with a gain of 0,5 for each. The last op amp produces the reference voltage for all three audio stages, diode D1 is to prevent glitches on the output with turning on the device.
The circuit around IC2 is required if the supply voltage is too noisy. With Rx = 150 Ohm you get a "U out" of 2 volt, with 1.3 K Ohm it is 9 volt.

Circuit variations

1) Variable amplifier
If you are using a 100 K Ohm stereo potentiometer instead of R2 resistors and both R1 with a 15 K Ohm value, the output gain levels are variable between 1 and 7.5.

2) Audio buffer
In case of a high level mono source you can connect it to both inputs "In1" and "In2" and are getting the same level at all three outputs. With given values for R1 and R2 we have a gain of 4 and an undistorted peak input level of 2 Vpp, 12 volt supply implied.

3) Audio mixer
For this purpose we need different gain factors at both input channels. By changing values of R1 and R2 you can mix a repeater audio output with a low level CW ID, for instance.



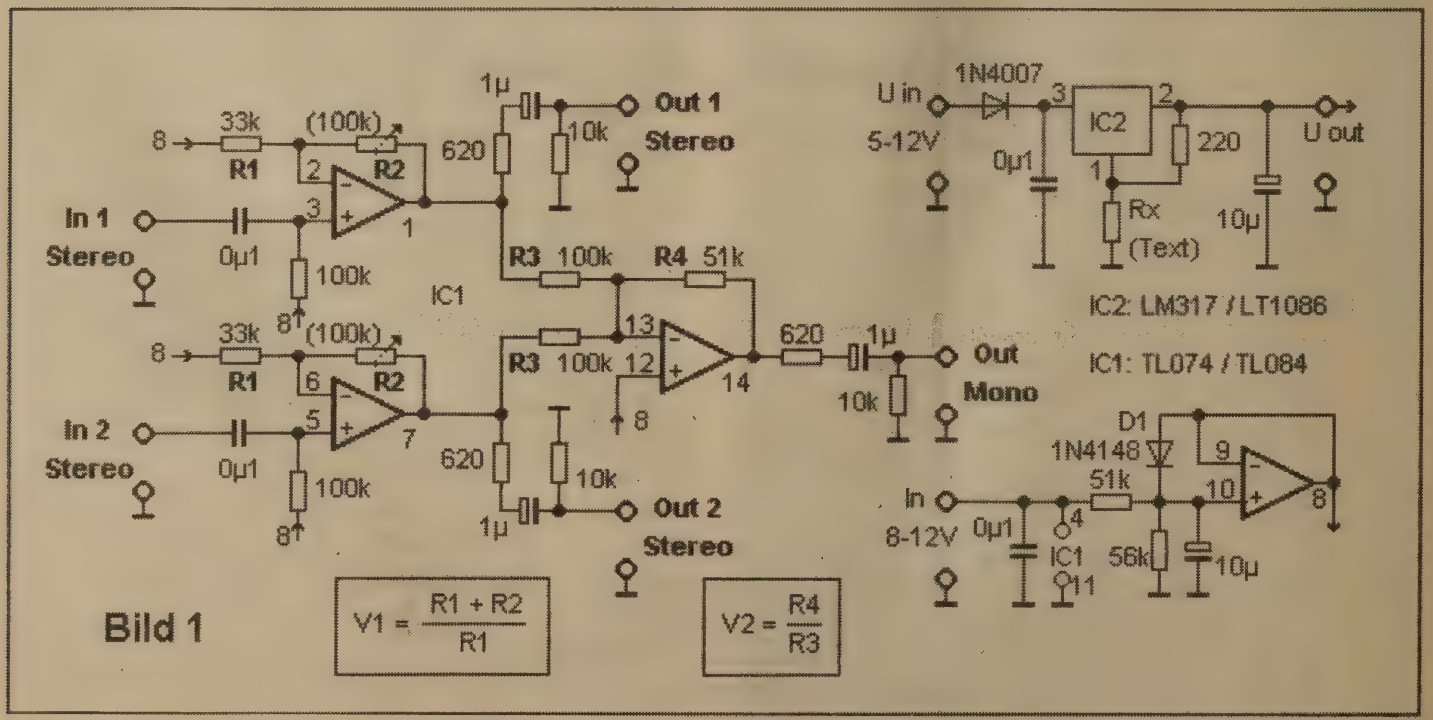


Bild 1

4) MP3-Player buffer

In "Bild 2" is shown an MP3-Player USB stick connected to the audio circuit. Instead of the internal micro cell battery the IC2 output is supplying it with 2.1 volts which enables the lowest power consumption possible. This will only work if the battery`s negative pole is connected to the ground wire of the headphone output like shown here with the "BogiManII" by X4-Tech.

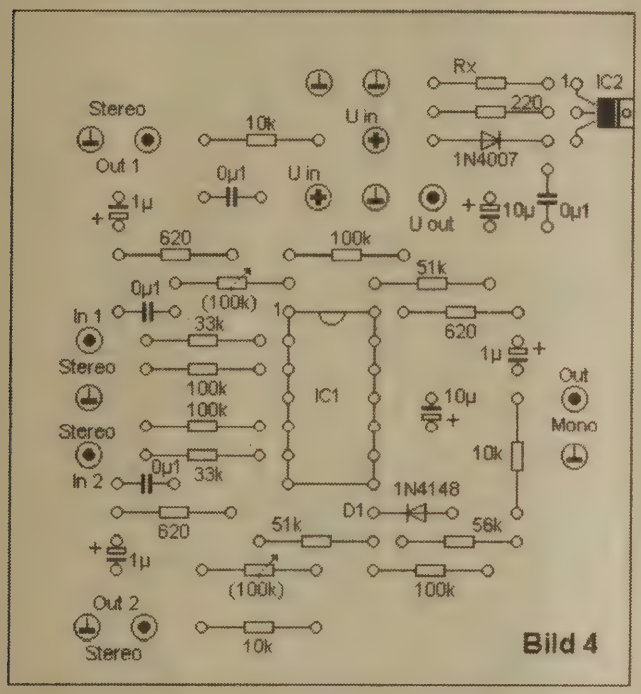
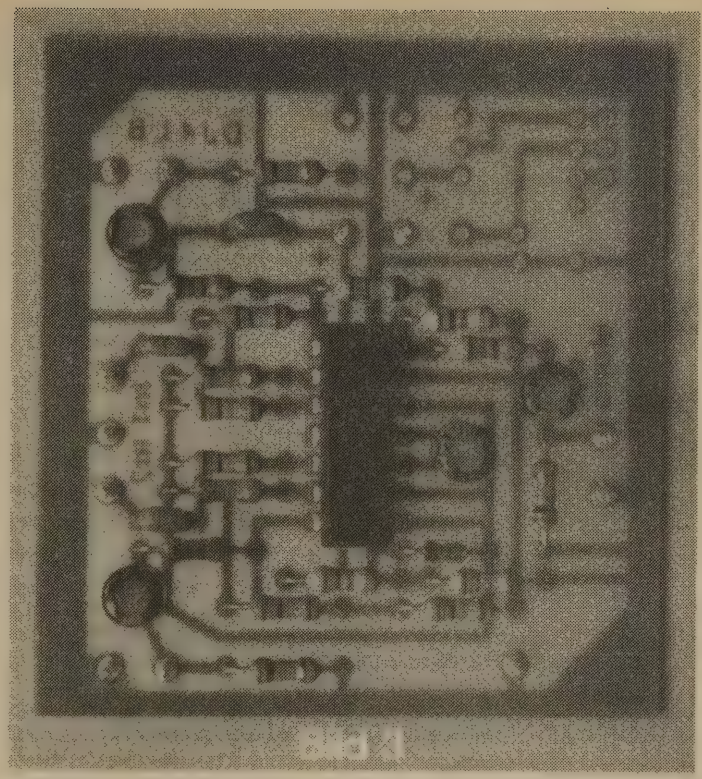


Bild 4



Application

"Bild 3" is showing the audio module on a single sided circuit board 55x60 mm (IC2 circuit not assembled). Component placement is shown in "Bild 4" and the copper track layout in "Bild 5".

ATVQ

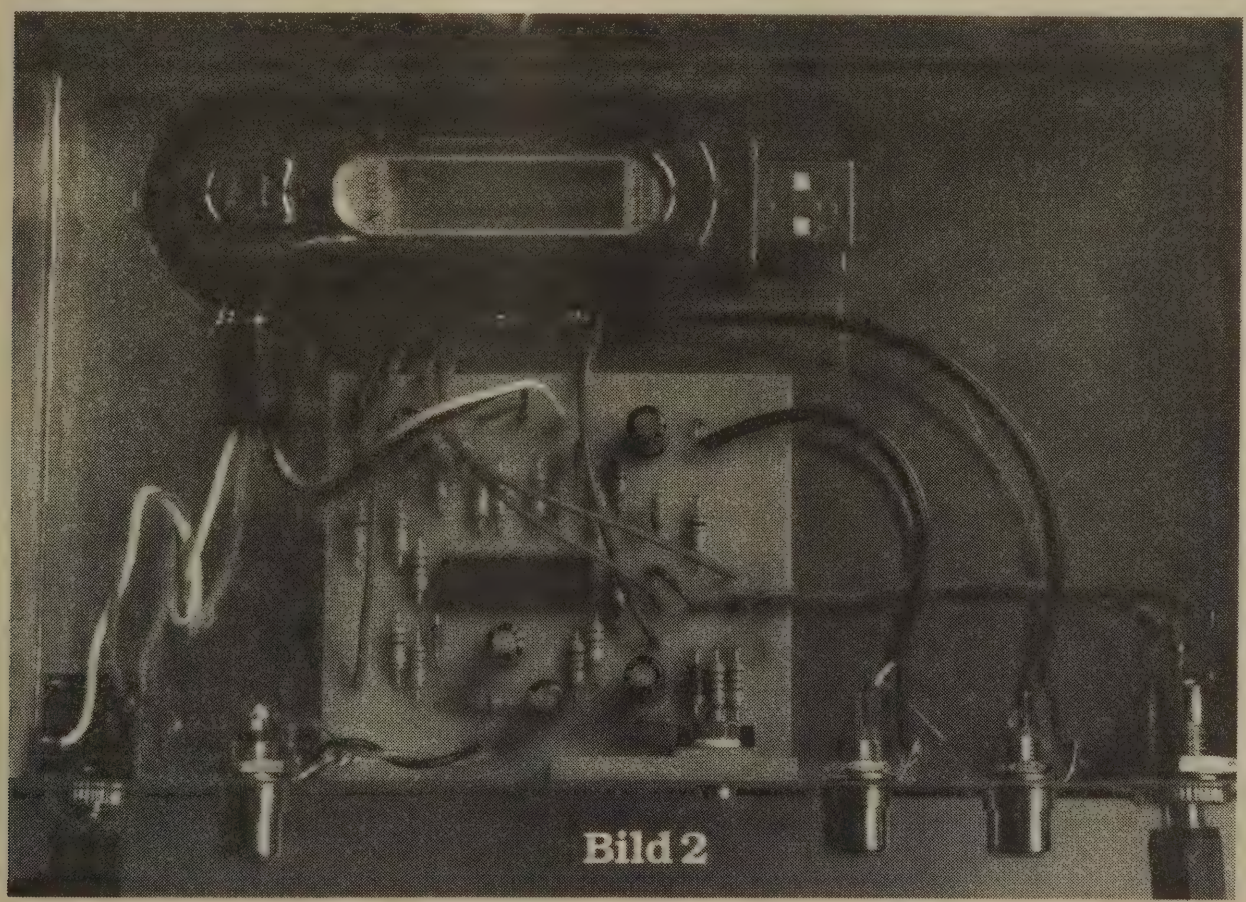


Bild 2

A Tribute To: BEASLEY

K6BJH

Bob Beasley, K6BJH
Born 1925, died 16 Feb 2008
Cartoonist, "the Best of Beasley on Amateur Television"

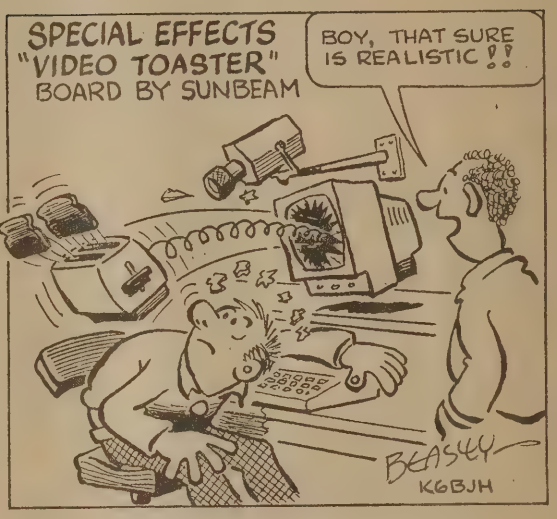
Helen from World Radio sent a biographical sketch Bob wrote for their 20th Anniversary pamphlet they printed in 1991.

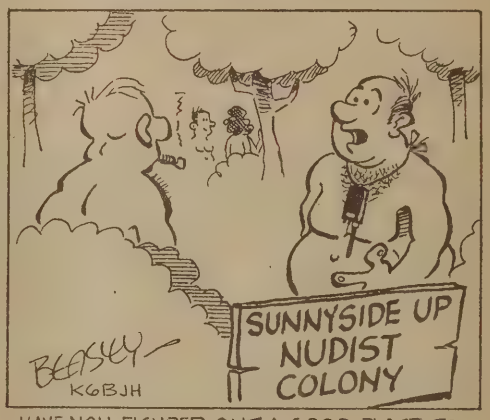
I was born and raised in southern California and got my Radio Amateur Operator's license in 1953.

I have been interested in comic art ever since I can remember, and decided at an early age that I wanted to be a cartoonist. Overcoming a severe obstacle (no talent) took a long time, and I found that lettering seemed to be the most difficult, since my penmanship in school was almost unreadable. I have had no formal art training except for a year of art in high school. My grades were deplorable since the teacher was interested in drawing flower vases and other still life, and I wasn't interested in drawing a vase unless I could show it bouncing off Barney Google's head!

I didn't really get into magazine cartooning until I retired from the workaday world. (I worked as a design engineer and draftsman for a small local foundry.) I guess that after retirement, idle fingers got into mischief and I started thinking up and drawing gags about Amateur Radio and related subjects. I suppose I draw so many Amateur Radio cartoons because there are so many potential gag situations in our magnificent hobby. Occasionally I will sit down at my drawing table and just stare at a blank piece of paper, but eventually, a whole new set of situations will come to mind, and I start drawing. My XYL hates it when I sit and stare off blankly into space, especially when she's talking to me, but I just calmly explain, "I'm writing gags!"

Maybe someday that blank piece of paper will permanently remain that way, but until it does, I will still keep trying to lay ink on it!

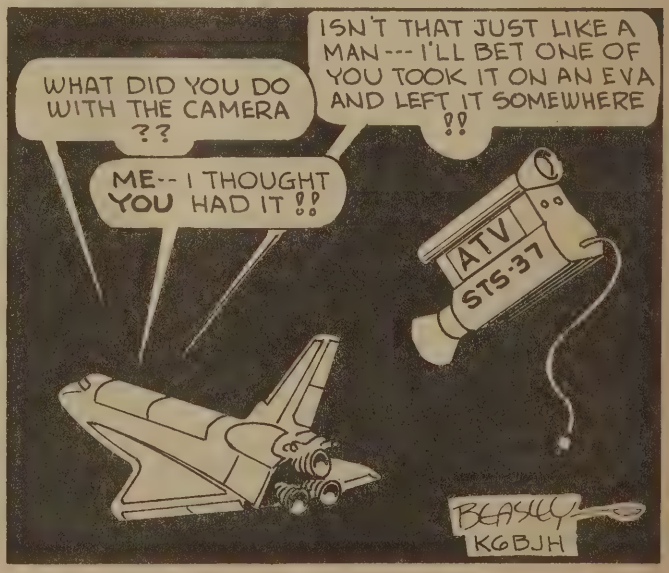


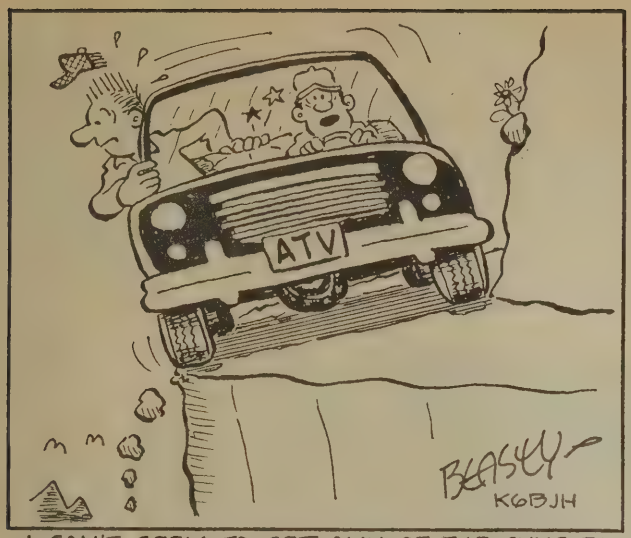


HAVE YOU FIGURED OUT A GOOD PLACE TO HANG YOUR HANDHELD?

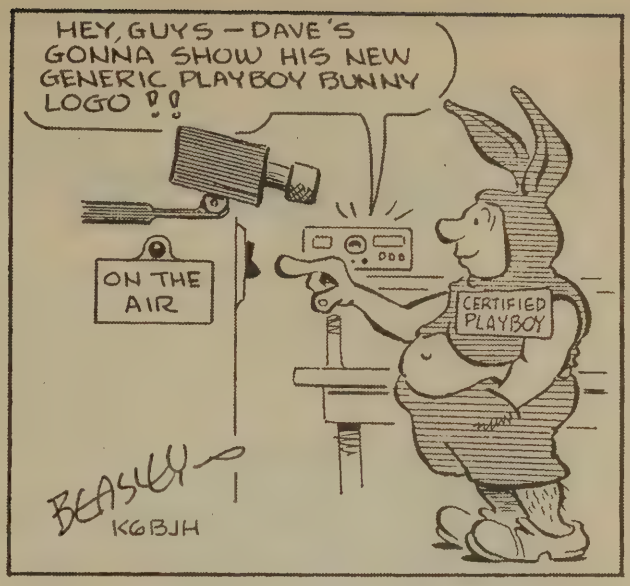
ATVQ

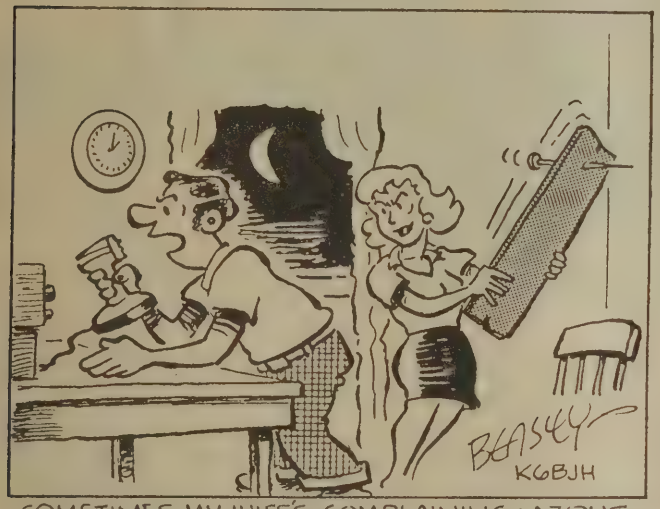
LET'S WAIT 'TILL THE WIND CHANGES --- LAST TIME WE DRIFTED ACROSS THE "SUNNY SIDE UP" NUDIST COLONY, AND FIVE GUYS MOONED THE CAMERA!



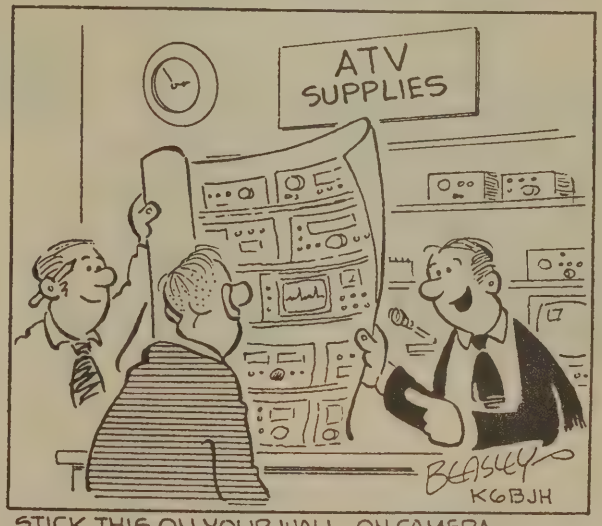


I CAN'T SEEM TO GET ANY OF THE GUYS TO RIDE UP HERE WITH ME TO HELP WORK ON THE ATV REPEATER





SOMETIMES MY WIFE'S COMPLAINING ABOUT MY LATE NIGHT HAMMING GETS TO BE A PAIN IN THE REAR



STICK THIS ON YOUR WALL, ON CAMERA--- MAKES IT LOOK LIKE YOU GOT A MILLION DOLLAR STATION!

Continued from page 20

teletext. But PR reliability is a major concern of the sys-op (remember latest developments on DFMG tower sites formerly used for the german PR network). The crew accomplished to switch "live" to the new receiver modules including video links to the Munic Olympia Tower, to Ingolstadt and to Salzburg (Austria). Some audience is eagerly awaiting additional linking to the western region of Bavaria, more technical details see at www.db0qi.de

Optimism is on command

To manage with 100 W (max. electric power consumption) and four antennas on an amateur radio repeater seems impossible to many people. But Paul Weinberger, DL9PX, sys-op at DB0ITV west of Pfaffenhofen, gave reference how to manage with even the half of power used before. This was possible by calculating the electric power in kWh per day assuming the admissible consumption. His ATV repeater with all links consumed 280 W of electricity, another consumer was the 70 cm voice repeater DB0CP. Under the new DFMG/VFDB preconditions the consumption was to be shared honestly, so for ATV only one antenna and another one for the link to Munic (DB0QI) was left. As a consequence the link to Nuremberg and the 10 GHz in/output were given up. These tiny sticks had been defined as separate antennas in the building plan. Luckily another ATV antenna was possible to use from the voice repeater contingent which in fact uses only one. Now only four hours of ATV repeater activity are left daily, controlled by a timer switching on between 19 and 23 h. Paul called everyone to request a higher power budget from VFDB calculated like he told above. Exceeding electricity charges would be taken over by concerned amateurs.

translations from TV-AMATEUR by Klaus, DL4KCK (AGAF)

DVB-T Transmission Tests By DD1KU

Since end of October 2007 Uli, DD1KU, living near Cologne is successfully testing DVB-T mode transmissions using a new "Minimod" module by SR-Systems. He is able to transmit on 1248 or on 2328 MHz (vertical polarization) with 6 MHz signal bandwidth, max. output power is 5 Watt.

On 22.11.2007 Uli held a lecture with practical demonstration in a packed tavern hall during a local DARC chapter meeting in his home town Bergisch-Gladbach. His DVB-T signal parameters are: COFDM 2K (1705 carriers with 4,4 KHz spacing), each carrier QPSK modulated, 17 TPS carriers with system specifications like guard-interval 1/4, FEC 1/2, constellation QPSK, video PID 256, audio PID 257. A suitable custom DVB-T receiver like a "Skymaster DT-500" is able to automatically adjust to these conditions provided that the receiving frequency is adjusted exactly within 200 KHz! Also the needed signal bandwidth has to be set beforehand, otherwise the channel scan function will fail.

For amateur DVB-T reception a suitable down-converter to UHF channels 21 - 65 is needed with a very stable LO (crystal or VCO) below the receiving frequency as modern DVB-T receivers are not able to process "inverse" signals. With QPSK modulation on each single carrier about 5 dB SNR are enough for good quality reception, even a Packet-Radio signal within the receiving channel did not impair it because of the high FEC value! First successful receiving reports came from DG3KHS (ex-DB0KO sysop, 27 km distance), DJ2IV (21 km) and DL5KL near by (no vision link). In some cases only 20 mW output was sufficient, but a mobile test from a moving car showed an upper speed limit of 30 km/h before the video stopped.

In a concluding live demonstration transmitting from a video camera in one corner of the hall to the receiver with a beam attached in the other corner an extended processing delay showed up, compared to amateur DVB-S transmissions.
www.dd1ku.de/DATV/DVB-T-Projekt/dvb-t-projekt.html

Ulm ATV Meeting By Klaus Welter, DH6MAV

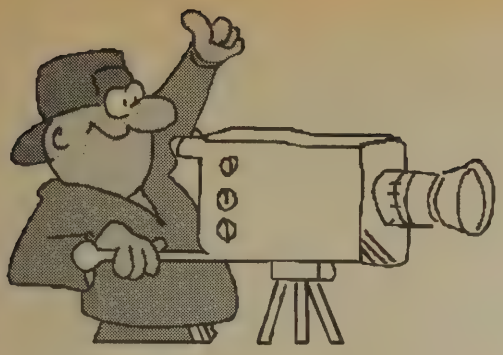
On 21st of October 2007 about forty guests arrived in spite of heavy snowfall on the Alb mountains north of Donau River in Bavaria. They came from Karlsruhe in the west up to Ingolstadt in the east in order to follow the invitation by Rolf Schairer, DL6SL. Lecture contents at Hotel Krone in Dornstadt could indicate a circle of engineers or a university seminar, but the humorous talking of lecturers brought much laughter. These were experts, but some "try-and-error" experience will possibly have caused several dead semiconductors in advance...

Motive force DVB-T
Ewald, DK2DB, as the first of two lecturers before lunch described his tests with the modules "WJ-M5D" and "ADE-5" (by ID-Elektronik). Henry, DL4SAC (sys-op at ATV repeater DB0LAB), had started transmitting DVB-T after getting an authorization without technical parameter definitions(!), and some amateurs near by wanted to see his signal. So Ewald modified his standard mixer to the "DVB-T-Konverter", down-converting from 1288 MHz to 522 MHz (UHF channel 27). Why not to VHF band III? Here we have only 7 MHz channel bandwidth, but DB0LAB´s standard signal has 8 MHz bandwidth suitable only for UHF receivers, and a narrower one would impair synchronization. We learned much more about unwanted "side bands", extensive filtering and interference - the latter is typical to switching power supplys.

There was word of other DVB-T testing by amateurs in Switzerland and near Cologne, but there is a cost barrier on the transmitter side (ultra-linear power amps needed). Another topic was a needed "Time Base Corrector" for the unstable video arriving at the repeater input - FM-ATV repeaters are more reliable on this term. So DB0LAB is working as DVB-T beacon only until now. Ewald emphasized the need of filtering using Great-Britain as an example: without a 13 cm amateur radio band the British ATV operators have to use repeater in- and outputs on 23 cm employing separating filters.

DB0QI - next generation
ATV repeater location is a high-rise building in Munic, 84 m high and empty (construction-monument). Ernst, DJ7DA, named it a lucky circumstance, that about 100 commercial antennas are using this site too. There are some restrictions, but the neighbors are useful as a continuance-protection. It all began 20 years ago and has now several links and analog or digital outputs on 23, 13 and 3 cm. The crew with Horst DL2GA, Tomtom DL1MFK, Herwig DM1MMT and Ernst DJ7DA started a basic reorganization. With power point presentation we saw analyzing, specifications and block diagrams as well as photographs, but also a real receiver rack slide-in module. Everyone was able to touch it and admire the R&D-department-like impression. With this design a new frame assembly is planned using I2C bus control, a crossbar matrix, DTMF and Packet Radio remote control as well as

Continued on page 19



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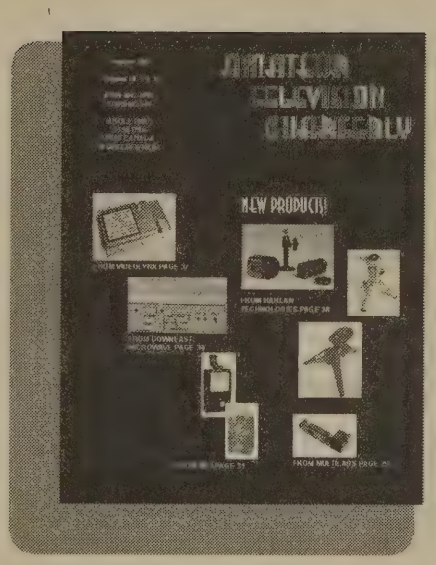

ATV Secrets Vol I & II On CD

ATV Secrets is a great place to start your ATV adventure! Volume I has 64 pages, tightly packed with information covering all aspects of getting started, where to find activity,equipment, how to DX, and answers frequently asked questions about power, antennas, vestigial sideband operation and more. Everything the beginner in ATV needs!

Volume II is a mammoth book with 292 pages of technical material. More than 40 authors present over 90 technical projects and theory topics to fully acquaint anyone from novice to expert in the how and what of TV, video, and ham TV. Divided into 11 chapters, the book presents tested projects for all areas of interest in ham TV including antennas, amplifiers, repeaters, receivers, transmitters, video accessories, and more!

Volume II is sold out in the paper version, but available on CD.

ATV Secrets Volume One (paper) $8.95
Shipping USA - $4.50

ATV Secrets I & II on CD $25.00
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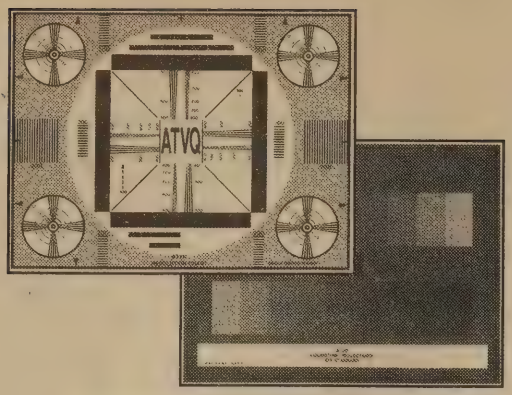
FULL COLOR TEST CHART



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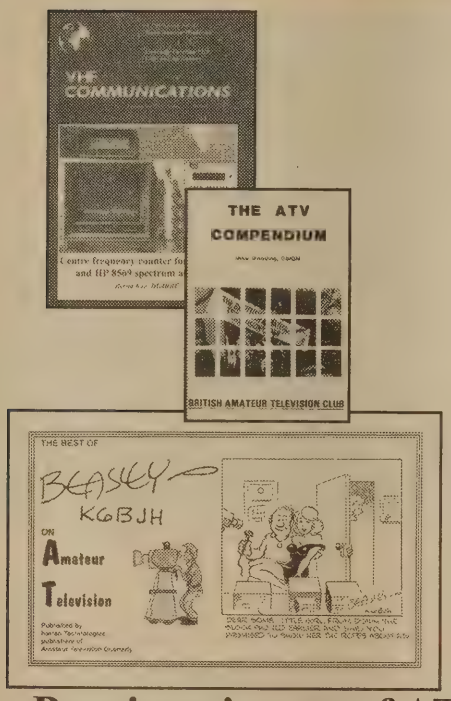

VHF Communications

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The ATV Compendium

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The Best of Beasley - K6BJH - On Amateur Television

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There are many super articles in the previous issues of ATVQ. We keep a list on **www.hampubs.com** of what we still have in paper. You will also find a complete index of articles so you can find just what you want.

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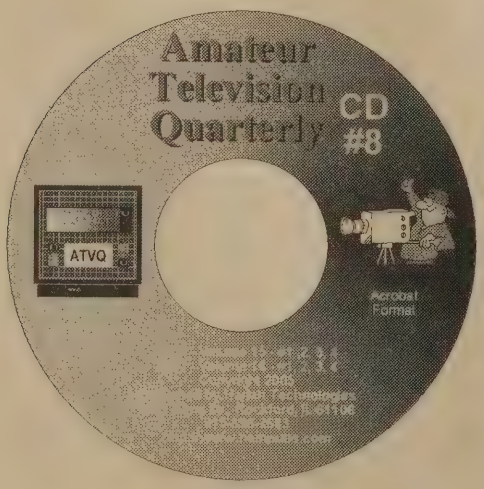

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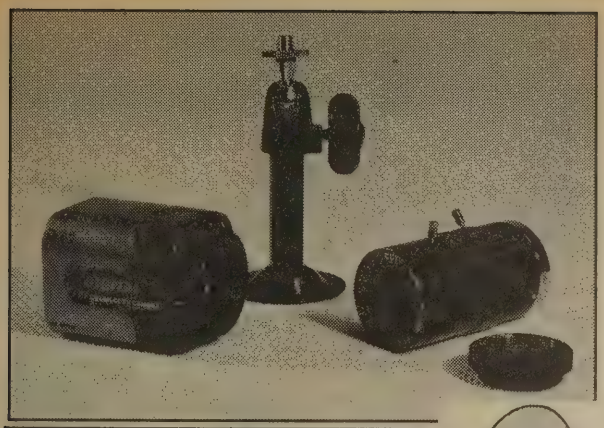
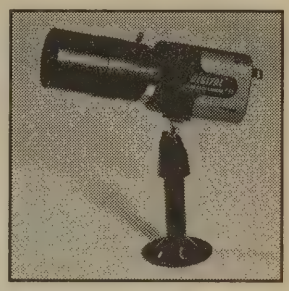
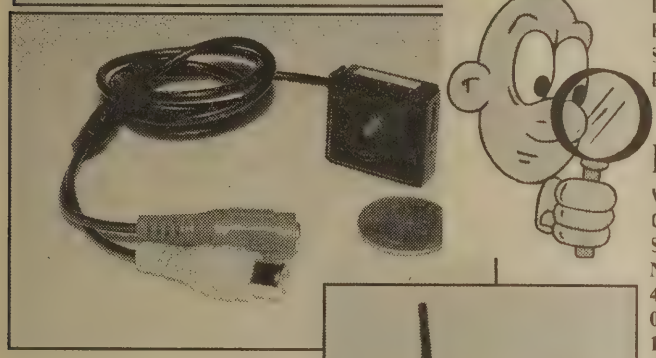


Color CCTV Camera Package

With Varifocal Lens (6-15 mm - f1.4) and Stand!
Color CCTV Camera - DV-4100C
Sharp 1/4" CCD
NTSC
420 Line
1.0 Lux - F1.2
1 Vp-p 75 Ohm
Auto White Balance
S/N Ratio - More than 46 db
Electronic Shutter - 1/60-1/1000,000 Sec
Lens - C/CS Mount - 6-15 mm - f1.4
Power - 12V±10% DC - 100 ma.
Small size - 40x40x54mm
Power supply and cables not included.

Complete package Only
$119.00

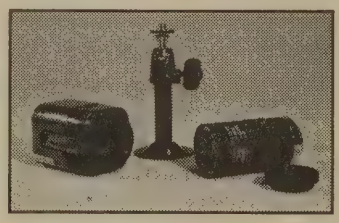


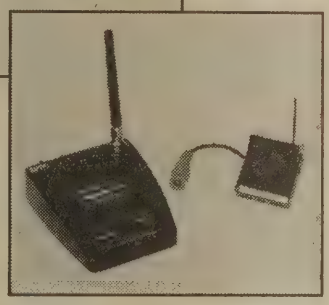


Day / Night Color CCTV Camera Package

With Varifocal Lens (6-15 mm - f1.4) and Stand!
Color CCTV Camera - DV-4400CDN
Sony 1/3" CCD
NTSC
420 Line
0.5 Lux Day (Color) - 0.01 Lux Night (B&W) - F1.2
1 Vp-p 75 Ohm
Auto White Balance
S/N Ratio - More than 46 db
Electronic Shutter - 1/60-1/1000,000 Sec
Lens - C/CS Mount- 6-15 mm - f1.4
Power - 12V±10% DC - 100 ma.
Small size - 40x40x54mm
Power supply and cables not included.

Complete package Only
$169.00





Minature Pinhole Color Camera

Color CCTV Camera - DV-3225CP1
Sharp 1/3" CCD
NTSC - 420 Line
1.0 Lux - 1 Vp-p 75 Ω
Auto White Balance
S/N Ratio - More than 46 db
Electronic Shutter - 1/50-1/100,000 Sec
3.7 mm cone pinhole lens
Power - 12V±10% DC - 100 ma.
Small size - 25x25 mm
Power supply and cables not included.

Your choice
$109.00
Plus shipping & tax in Illinois

Minature Wireless - 2.4 GHz Color Camera

Color CCTV Camera - DV WX-3334C
Four Frequencies on 2.4 GHz
Sharp 1/3" CCD - NTSC - 420 Line
1.0 Lux - 1 Vp-p 75 Ω
Auto White Balance
S/N Ratio - More than 46 db
Electronic Shutter - 1/50-1/100,000 Sec
3.6 mm board lens
Power - 12V±10% DC - 100 ma.
Small size - 34x34 mm
Power supply and cables not included.

Water-Proof Color Camera

Color CCTV Camera - DV-262CW
Sharp 1/3" CCD
NTSC
420 Line
1.0 Lux
1 Vp-p 75 Ω
Auto White Balance
S/N Ratio - More than 46 db
Electronic Shutter - 1/50-1/100,000 Sec
6.0 mm - F1.2 lens
Power - 12V±10% DC - 100 ma.
Small size - 25x25 mm
Power supply and cables not included.

$119.00
Plus shipping & tax in Illinois

If in Illinois - add 7.25% tax
Shipping in USA $10.00 per camera, cable, tripod combination

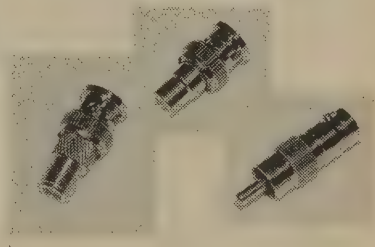
12 Volt - 300 ma. Wall Transformer
$6.00

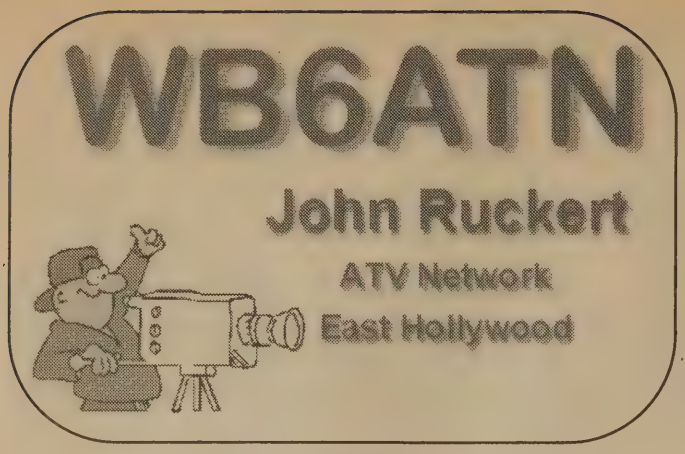
Video & Power 2.1 mm Cable - 25 feet RCA to BNC
$14.95
50 foot $19.95

Mini Tripod Folds to fit in pocket
$6.95

5-Section Tripod Legs extend to 7 1/2"
$14.95

Connectors
F-F to BNC-M
RCA-F to BNC-M
RCA-M to BNC-F
$3.00 ea.





Quantity prices available!

Name Tags by Gene

Beautiful, colorful, plastic name badges are available with clip, locking safety pin, magnetic bar, luggage strap, or lanyard.

Check our samples at **www.hampubs.com** , or make your own design. Any photo can be used, such as a club logo or we have many stock pictures to use as well.

Prices:
Name tag with clip $10.00
Name tag with pin $10.00
Name tag with magnet $12.00
Name tag with lanyard $12.00
Name tag with luggage strap $10.00

Quantity	Model	Description	Price ea.	Total

Total	
If in Illinois add tax 7.25% (No tax on name tags or subscriptions)	
Shipping	
Final Total	

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Rockford, IL 61108
815-398-2683 - voice orders
815-398-2688 - fax
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Credit Card # _____ _____ _____ _____ **Expires** ____ ____ **Approved** _____

Signature _____

International Visual Communication Association (IVCA)

Friday Night IVCA SSTV Meeting
7:00 PM Friday
May 16, 2008

Location:

Holiday Inn - Dayton Airport
10 Rockridge Rd.
Englewood, OH 45322
Phone: 937-832-1234
(New location this year)

Directions:

Three miles from Hara Arena.
Go East on Shiloh Springs Rd turn Left on N Main St (48). Continue to the I-70 overpass. Rockridge Rd is on the left just past the overpass.

If you are not able to turn left onto Shiloh Springs Rd: From the Hara Arena turn right on Shiloh Springs Rd. Take the next right, Basore Rd. Basore Rd ends at a "T". Turn right onto Westbrook Rd. Turn left at N Main St (48). Continue to the I-70 overpass. Rockridge Rd is on the left just past the overpass.

Program Chairman:

Dave Jones, KB4YZ

Speakers:

TBA

Talks will cover:

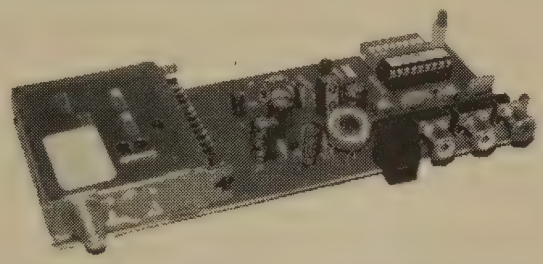
- new software programs
- comparison of SSTV systems
- better and innovative uses of SSTV
- SSTV web pages
- and much more

There will be a general election of officers.
Come prepared to nominate names for the election.

Anyone is welcome to present a program.
Contact Dave Jones, KB4YZ if you would like to speak to the group on any SSTV related subject. (**djones@tima.com**)

New Product Announcement 2.4 GHz ATV Receiver For Amateur Radio Use

In the Winter ATVQ we announced that we are now carrying the Comtech FM transmitters and receivers. Since then we have added one more to our offering. Last issue we introduced the 2.4 GHz receiver that had four of the popular frequencies and changed frequency with a pushbutton. Now we also have one that uses dip switches so you have more control over the frequency. Both are listed below.



2.4 Ghz Receiver - Dip Switches

Receives from 2.390 to 2.45375 GHz FM amateur television in 250 KHz steps.

Required Power: 12-15 Volts DC - center positive
Yellow Plug - Video Out - NTSC composite
White Plug - Audio Out for 6.0 MHz subcarrier
Red Plug - Audio Out for 6.5 MHz subcarrier

2.4 Ghz Receiver - Pushbutton

Receives FM amateur television on 2.398, 2.414, 2.428, and 2.438 GHz. The frequencies can be changed by pressing a button. The frequency is remembered if power is lost.

Required Power: 12-15 Volts DC - center positive
Yellow Plug - Video Out - NTSC composite
White Plug - Audio Out from 6.0 MHz subcarrier
Red Plug - Audio Out from 6.5 MHz subcarrier

More information and pricing should be on our web site.
Check: **http://comtech.hampubs.com/**

By the way, these units will only be sold to licensed amateur radio operators as the power is above Part 15 limits.

I will try to answer as many questions about these units as I can, but I am learning about them as I go along. Searching on the Internet will provide lots of information, and we can learn together. If you are using, or start using the units, write up what you are doing and it might get published.

Gene - WB9MMM - ATVQ

Amateur Television Contest 2008

Contest period 00:00z 06/01/08 to 00:00z 09/01/08

Contest goal: To raise activity and promote *long haul* contacts on ATV. **This year encourage everyone you see to enter!**

Participants must hold at least a Technician class license and be within the boundaries of North America, Alaska or Hawaii.

In case of multiple Ham occupants, they may share equipment during the contest so long as the intent is not merely to manufacture points. All occupants who enter must submit their own log.

Schedules: The use of schedules is allowed, and can be made by any means available. The use of 144.340 MHz national ATV calling frequency is also allowed and encouraged.

REPEATER CONTACTS DO NOT COUNT. Distance calculations will be between both stations in the QSO with no relay allowed.

Exchange: Callsign with at least P-1 video on any amateur band 70cm and above.

MOBILE or **PORTABLE** stations must exchange their location at the time of contact as determined by portable GPS or other verifiable means.

VIEWER: Station does not have to exchange any video but must be a licensed amateur and confirm at least a P-1 reception report to the transmitting station via 2 meters or another amateur band.

CLASSES: There will be 4 classes for participants:

HOME: Primary location of residence with Fixed Antenna structure. Minimum distance for repeat contacts (75 Miles)

PORTABLE: Station can be set up just for the contest and may not operate from any other location during the contest period. Minimum distance for repeat contacts (50 Miles)

MOBILE: Station can operate stopped or while moving but all antennas must be affixed to the mobile unit and capable of transmitting while in motion. Minimum distance for repeat contacts (25 Miles)

VIEWER: Station must be able to receive video at P-1 signal level and relay report to the transmitting station. Minimum distance for repeat contacts with this class is determined by the transmitting stations type or class.

Scoring System: Each valid contact will be awarded points for the mileage between the two stations on an ever-increasing difficulty per frequency basis as follows:

70cm = 2 points per mile
33cm = 4 points per mile
23cm = 6 points per mile
13cm and above gets 10 points per mile!

A station can be worked for points only once unless they are a minimum distance apart as specified by the class of entry. (See CLASSES) and then they may be worked once in a calendar month through the contest period.

The distance between stations will be calculated by the Maidenhead Grid and sub grid identifier coordinates listed on QRZ.com and rounded down to the nearest mile. Every effort should be made by entrants to verify or update their information before the contest starts. If you do not have Internet to look up a stations coordinates please ask the other station. If they do not know then leave the mileage column blank and it will be determined by the verifier. No changes can be made to coordinates once the contest starts unless you move.

Distance will be calculated with the (Bearing and Distance) DOS program by W9IP that is used by the ARRL for distance records.

LOG's: All logs must be in a standard format as specified below:

STATION WORKED RPT REC RPT SENT UTC DATE FREQUENCY GRID SQ DISTANCE POINTS

Your log information should also include your Name, Address, your Maidenhead Grid and sub grid identifier coordinates, and a list of equipment used. Sample Log is below and a full page Log sheets will be available on **www.hampubs.com** .

Logs can be submitted by email or regular mail and must be received by September 15th to be eligible for contest Awards. Send the logs to:

ATVQ Contest - 5931 Alma Dr. - Rockford, IL 61108 - or to: **ATVQ@hampubs.com**

If you use the **ATV Contest program** written by Charles Beener, WB8LGA, which is at **http://home.columbus.rr.com/cbeener/** , please email me the data file to **atvq@hampubs.com.**

AWARDS:

All Scores will be published in ATVQ and certificates will be awarded for the top three scores in each class. The highest overall score of the contest (The one who covers the most points on ATV) will receive the OVERALL WINNER PLAQUE

ATVQ

CALL			GRID SQ.			CLASS		
STATION WORKED	REPORT SENT	REPORT RECEIVED	UTC	DATE	FREQUENCY	Grid Sq.	MILES	POINTS
TOTAL MILES				TOTAL POINTS				
NUMBER OF DIFFERENT STATES WORKED								

The Dayton Friday Night ATV Dinner

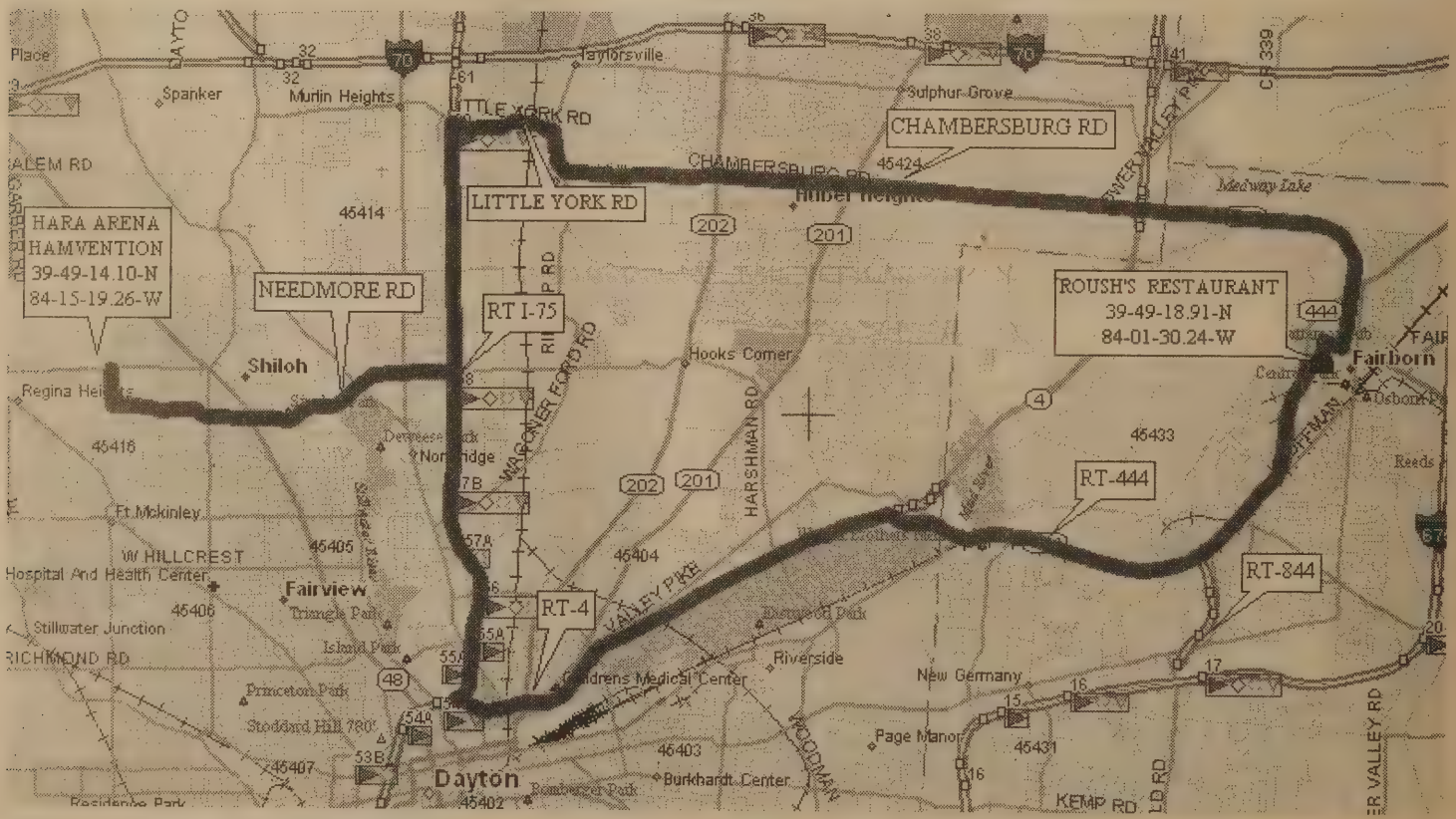
Roush's Restaurant
305 W. Main Street
Fairborn, OH 45324
937-878-3611
www.roushsrestaurant.com
39-49-19-N 84-01-30-W

Driving Directions:

From I-75 South to RT-4 East follow until you exit RIGHT at RT-444 follow this past RT-844, road will turn into regular road, make a RIGHT turn onto W. Main Street continue for three blocks and turn LEFT onto Miller Avenue and a LEFT into the parking lot behind Roush's building.

Alternate Directions:

From I-75 take Little York Road East then a RIGHT turn onto Rip Rap Road then a LEFT onto Chambersburg Road, at RT-4 Chambersburg Road changes name to RT-235 follow to the intersection with W. Xenia where RT-235 turns LEFT but you continue straight, road changes name to N. Central, at W. Main Street turn RIGHT and go three blocks then RIGHT onto Miller Avenue and a LEFT into the parking lot behind Roush's.



Saturday - 1130-1330 ATV Forum (FAST SCAN AMATEUR TELEVISION)

Ron Cohen, K3ZKO will speak first about, **"An Introduction to ATV"**. The subject matter will include, equipment used in ATV and where to purchase it, how to assemble an ATV station and expected results. It will be helpful to those just starting as well as those yet planning to enter this hobby. Ron, in the 60's was on the prime Apollo recovery ship transmitting live splash-down TV to the world. Later he was involved in the two-way radio service business and has been in TV-Guide magazine and on NBC National news speaking about Amateur Television. He was also the original publisher/editor of A5 Magazine which was the forerunner to the present day ATVQ Magazine.

Dave Stepnowski, KC3AM will speak next about **"Comtech module uses"**. These Taiwan made transmit and receive modules have been very popular with ATVers as they provide easy and inexpensive ways to get on the air. Dave will point out some of the effective ways they can be utilized.

Dave was first licensed in 1976 as WB3GDB and worked in the CATV & Satellite TV fields since high school. He currently works at Verizon with fiber optics and high speed data for major business and inter office communications companies. He's been involved in ATV for 20 years and maintains three repeaters in DE, PA & MD using AM & FM from 440 MHz through 2.4 GHz. He is the Vice President of the Delaware Repeater Association.

Henry Ruh, AA9XW will speak about **"Reliability: Analog or Digital for linking"**. This involves setting up requirements for linking multiple ATV repeaters as well as building techniques.

Henry is the former publisher-editor of A5 and ATVQ magazines and author of nearly a dozen books on TV technology with over 40 years broadcast experience including an Emmy for technical achievement, and several ham radio awards from ARRL and other organizations. He first became a ham in 1969 and put his first ATV station on the air in 1971. He has taught university level TV production, business management. He is currently the chief engineer for a Chicago TV station, and contract engineer for Qalcomm/MediaFLO.

Bill Brown, WB8ELK will talk about **"Simplex ATV repeaters and balloon ATV"**. Bill's ballooning experiences will be outlined along with NASA involvement. ATV repeater experiences will also be discussed.

Bill has been involved with high altitude ballooning with and without ATV cameras for many years. Bill is also the designer of the now famous Elktronics TV identifier PCB used by almost all ATV repeaters for on screen identification purposes.

Mike Collis, WA6SVT will talk about, **"The Amateur TV Network in California"**. This network is the largest and most complex in the USA. The topics will include linking ATV repeaters and equipment needed including ATN's state of the art 16 input 8 output ATV controller that can be field configured using a laptop.

Mike has been licensed since 1972 and started building ATV equipment in 1976. By 1979 he built an ATV repeater to cover the greater Los Angeles area and by the early 1980s started working with other ATVers in Southern California to build more ATV repeaters and link them together. He has a background in Broadcast TV and currently an engineer for CBS TV in Los Angeles. Mike also helped start the Amateur Television Network (ATN) in Southern California. ATN has spread across the county and chapters have formed in many other states.

WA8RMC and KB8OFF will talk about **the progress with the ATCO and DARA ATV groups**. Jessie and I will briefly discuss the progress of linking the ATCO and DARA ATV repeaters. The DARA ATV repeater is undergoing a site change which Jessie will address. The ATCO group is refining the digital ATV portion of its operation so I will touch on that subject. We have also discussed establishing a digital ATV link between us.

I have been involved with ATV since 1965 and am recently retired from my engineering job of 43 years. In the years since 1965 I've been involved in almost all aspects of ATV in the UHF/microwave bands including digital ATV. I am presently involved in writing a new ATV chapter for a future release of the ARRL Handbook . I am currently the president of the ATCO ATV group in central Ohio and the editor/publisher of the ATCO Newsletter. Last year I was blessed to become the Hamvention ATV moderator.

ATV'ers Meet on 3.930 MHz

Ron, W9ZIH, called to let us know that there is a group of ATV'ers that meet in the morning around 7 AM C.S.T. and try to send video back and forth.

Some of those you might find are W9NTP, KB9JGF, WA9EEI, W4VXP, W4HTB, K4NQV, WC4WFN, W8RVH, W8ZCF, WB8LGA, and W9ZIH of course.

In addition to video, some have sent CW on 1296 MHz to check propagation and it has been heard. One of these days they will switch to video when conditions indicate that it might work.

ATVQ Fall 2007

Excellent publication as usual. You did an excellent layout on the article from W8RVH and myself. I'm sure that those shown in the color shots on your front page will be very pleased. Just one error noted. Under KB9JGF the name should be Bill Worth. Lynn, IN.

Thanks and 73, Farrell, W8ZCF

THE DECADE BOB-4 VIDEO INFORMATION OVERLAY BOARD

TELEMETRY YOU CAN SEE

By: John McGovern - N9RF Email: JMLTINC@aol.com
19203 Collins Rd.
Marengo, IL 60152

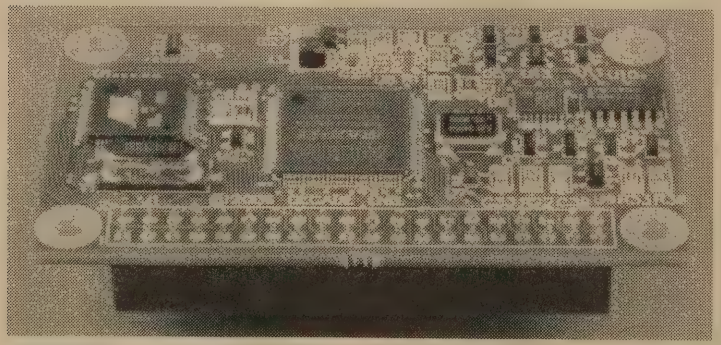
For me, watching live video from a balloon launch is an exciting event. If it is local, the views in the first moments, as the balloon rises into the sky, are breathtaking. If the launch is a few hundred miles away, the opportunity to track and receive the video signal is satisfying.

But, the "best part" of the event, is watching the telemetry: How fast is the balloon travelling, and in what direction? How long has it been aloft? At what altitude is it now? And, the ultimate question: At what altitude will the balloon burst?

However, the "best part" of the event is usually rather disappointing, as the telemetry is barely seen over the quickly changing contrast of the background video. Text superimposed upon the live video (especially at altitude) is lost, as there is neither constant nor sufficient contrast between the text and the background video. Enter the BOB-4-H.

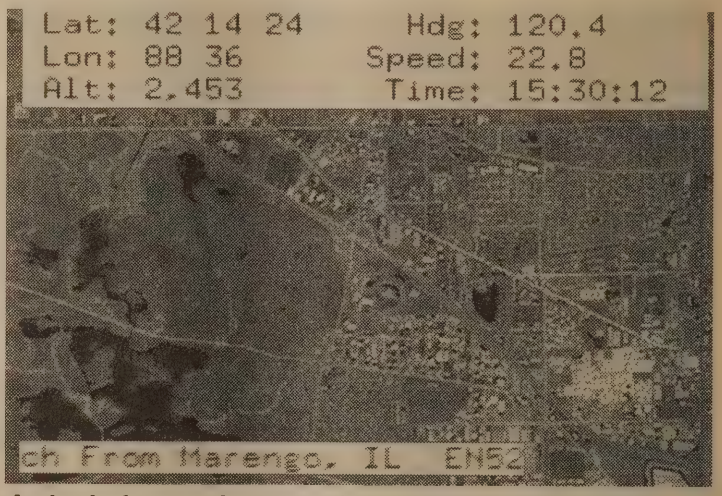
Under The Hood

The BOB-4-H by Decade Engineering (**http://www.decadenet.com/**), is their newest offering in video overlay devices. Measuring 2.65" x 1.5" and weighing .55 oz., this is truly a versatile device, capable of displaying 8 onboard fonts as well as custom, user-defined fonts and graphics. Standard overlay resolution for NTSC is 320 x 240 with higher pixel rates to 480 pixels/line. The BOB-4-H will genlock to your video or will automatically generate its own source (black screen).



The BOB-4-H module: The dip header is just visible underneath the board in this view.

The BOB-4-H can display different fonts (each with different rendering and sizes) and graphics at the same time - and anywhere on the screen. All fonts may be rendered in black, white, or halftone; all but one resident font may have an outline rendered similarly. Any character may blink or be displayed in reverse (or both). As the cursor may be positioned anywhere on the screen, any character may be overwritten without the need to clear the screen. The BOB-4-H also includes a crawl – a very neat feature. Text continuously crawls from right to left across the screen at any vertical position (row) you choose. Of course, the crawl has all the attributes of the aforementioned fonts and can be changed or turned off completely.



A single frame of captured live video from the BOB. Notice how the telemetry is clearly visible and unaffected by the background. The tail end of a crawl is at the bottom.

With the graphics ability of the BOB-4-H and it's 62kB of onboard flash memory, just about anything can be drawn on the screen. These objects may be user-defined bitmaps that can be called upon like a font character, to complex vector graphics. The command set is complemented with powerful vector graphics commands to create anything from simple lines or arcs, to polygons and circles for custom placards.

Making It Work

The BOB-4-H accepts serial data from any serial source. I paired my BOB-4-H with a Parallax Basic Stamp BS2. The BOB-4-H accepts 3.3-volt logic level signals and is therefore compatible with most PICs. If you plan to use a 5-volt logic level source (such as a PC serial port) you will have to add a level shifter in the serial line. (Note: Decade supplies a simple RS-232 hardware interface schematic in the Application Notes

for the H model and also offers the XBOB-4; a version of the BOB-4 with a PC-ready serial interface, video and power jacks, and level controls for foreground, background, and overlay transparency).

I mounted my BOB directly to a copper clad PC board using machine screws. Wiring is very simple. The BOB has a 2 x 20 dip header socket. I wired it dead-bug style, with 6 pins to ground, four pins connected to the internal 3.3 volt supply, and power input from a 5 volt supply (a 7805 is an adequate supply). Additionally, one pin accepts serial data from the PIC and the final two connections are video in and out. BNC chassis connectors for video in/out were soldered directly to the PC board with short leads to the header, and posed no problems.

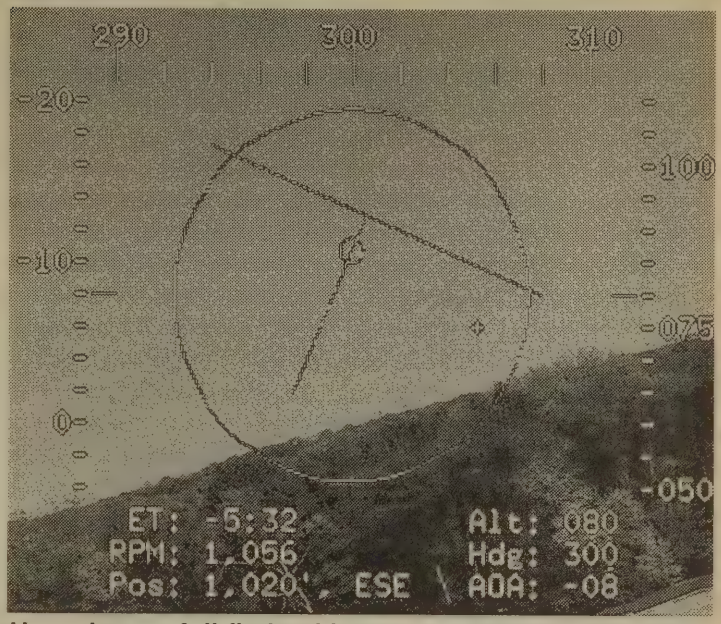
Programming is fairly straightforward. The command set for the BOB-4 is robust. The Application Guide supplies all code instructions and some examples. Unfortunately, the command set is BOB's native code, and as it will be controlled with a PIC, parsing was confusing at first. However, Decade has a sample PBasic code on their website and their Tech Support team responded quickly to my questions. After fooling with it for a while, I was able to control the BOB with ease. The display is crisp and responds swiftly to commands.

The "Best Part"

For ballooning, a portion of the screen may be rendered as a white background with all telemetry written over it (in black, of course!). The result is live video and telemetry that can be seen under any background conditions. The black on white lettering, like a DX placard, is plainly visible, even under relatively weak signal conditions. This is a vast improvement over other OSD's with fixed white or halftone text. For those enthusiasts who do not mind a bit of additional circuitry (PIC) and associated programming, the result is well worth the effort.

The graphics ability allows for a gauge set for the R/C airplane folks.

As well as ballooning, the BOB-4-H would be at home in an R/C application. In addition to the normal telemetry overlay display, the vector graphics command set could allow telemetry to be displayed graphically – such as a compass for heading and gauges for altitude, speed, etc. This would make a very interesting display indeed!



How about a full fledged Heads Up Display - ala a jet fighter?

With proper programming an R/C airplane could be flown beyond reasonable visible range. With an artificial horizon and an indicator of relative position (to the flyer) programmed; along with a camera, the usual telemetry such as compass heading, airspeed (or prop RPM), altitude, and air time, flying a model would approach the real thing. Can you say Predator aircraft pilot?

Future Developments

Decade is working out the details for a companion board for the BOB-4-H. Plans include an on-board processor with an RS-232 interface and serial I/O and ADC inputs, and much more. This certainly would make a "one board solution". Virtually any digital or analog input could be processed and displayed with minimal effort.

Decade hasn't forgotten us "Armchair" ATV'ers either. Already in development is the BOB-6-H; a revved-up, hi-resolution, full color version of its little brother; which will allow color bars, custom color graphics, and of course, all the text flexibility of the BOB-4. Those of us who are looking for a stand-alone, user-programmable (multi) placard display, will certainly be interested in this version.

Special thanks to John, KG4L, for my education of "airborne ATV", John Smith of Milford Instruments, LTD. for his precious time, and to my good friend Ron, W9ZIH, who put up with my incessant on-the-air testing and discussion of the BOB. The On Screen Displays depicted in the accompanying photographs are not taken from actual balloons or aircraft, but merely demonstrate the abilities of the module to create such displays.

ATVQ

The Flight of NearSys 07D

By Paul Verhage - KD4STH Email: Paul.Verhage@boiseschools.org
5720 3rd Ave.
Nampa, ID 83686

I love to help groups launch their first near space flight. And I had another one of those opportunities last October for Boy Scout Troop 28 of Prineville, Oregon. The scouts were looking for something different to do and their scout master and amateur radio operator James Wilson found one, a near space launch.

After several weeks of coordinating the launch, Rachel and I met James one Friday afternoon for dinner in Prineville. Joining us was another mobile APRS tracker, Bob King (K7OFT) of Seattle. After dinner we all drove to city hall where there was enough room to lay out the entire near spacecraft.

The only problem we encountered was a dead battery in the digital fish scale. I discovered that the digital scale I've used for the last 11 years to weigh the near spacecraft and its balloon's lift was designed with permanent batteries, so we couldn't exchange the dead ones for new ones. Then I discovered that it's impossible to find a digital fish scale at 9:00 PM in a small town like Prineville. However, I eventually located an inexpensive analog spring scale that could do in a pinch (I'll be darned; they still make analog spring scales in the digital age). I wasn't comfortable with the accuracy of a small, inexpensive spring scale; therefore we planned to overfill the balloon with helium in the morning.

On this mission, the near spacecraft carried a digital camera, accelerometer, and Styrofoam glider with a four foot wing span. The glider was to be released one hour into the flight. With luck, someone would discover this large fluorescent orange glider after it landed and investigate. Written on the glider they would find my phone number and email address so they could contact me. Since this was just a mission to acquaint the scouts with a near space launch, chase, and recovery, nothing but the camera, accelerometer, and glider were carried on this flight. But this meant that the lighter than usual near spacecraft would reach a higher altitude (just short of 90,000 feet) on this mission.

It was a cold Saturday morning at the Les Schwab field in Prineville. The winds were light, but as a safe guard, we began filling the balloon under the park's band shelter. It didn't take long to see however, that the balloon would inflate too large to safely remain under the shelter. So the balloon and its filler were carefully carried out to the grassy park to finish filling.

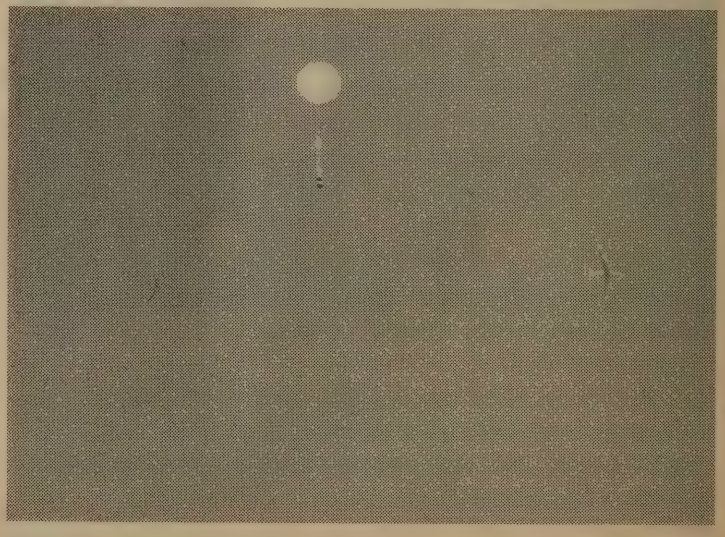
We did something different with the load line on this launch. Typically, launch crews use a single load line to tie the balloon neck to the parachute apex. However, because of some recent launches that ended when the load line broke and the balloon escaped (the latest being NearSys 07C in Omaha), we tried strengthening the load line. The load line was cut three times longer than necessary (60 feet instead of 20 feet) and folded up. This created a load line of three parallel cords. The line was then knotted every 3 to 4 feet in the hopes that the knots would keep the load line strong should one of its nylon cords break.

One problem launch crews face when raising the near spacecraft in preparation for launch is the difficulty of safely gripping the load line. A load line pulling up with a force of 15 pounds is difficult to keep in control without it slipping and giving a painful string burn. We discovered that the knots tied in the strengthened load line created very convenient way to safely grab it. I'm now recommending that every near space launch double or triple up their load line and tie knots in it.

Rachel had attended one other near space launch before this one. It was at GPSL where she only filled the balloon. So this time I made sure she launched the balloon. After checking the tracking equipment and camera on the near spacecraft, and raising the near spacecraft with its knotted load line, Rachel released the bottom module of the near spacecraft at the end of the count down. On my webpage report of NearSys 07D you can see Rachel in her green Kermit the Frog gloves releasing the near spacecraft.

As the balloon began climbing, the glider began shaking violently. It was the glider's desperate attempt to point its nose into the wind. What wind you might ask? The wind the glider was feeling was generated by the balloon's 1,200 feet per minute climb. So as far as the glider could tell, it was flying backwards at 13 mph. The glider's shaking eventually ripped it free of the loop holding it to the near spacecraft's release mechanism. Instead of

The one that got away. Yes, it's supposed to separate from the near space craft, but not this low.



the 60,000 foot release programmed into the flight computer, the glider left the near spacecraft at around a 100 foot altitude and serenely flew away.

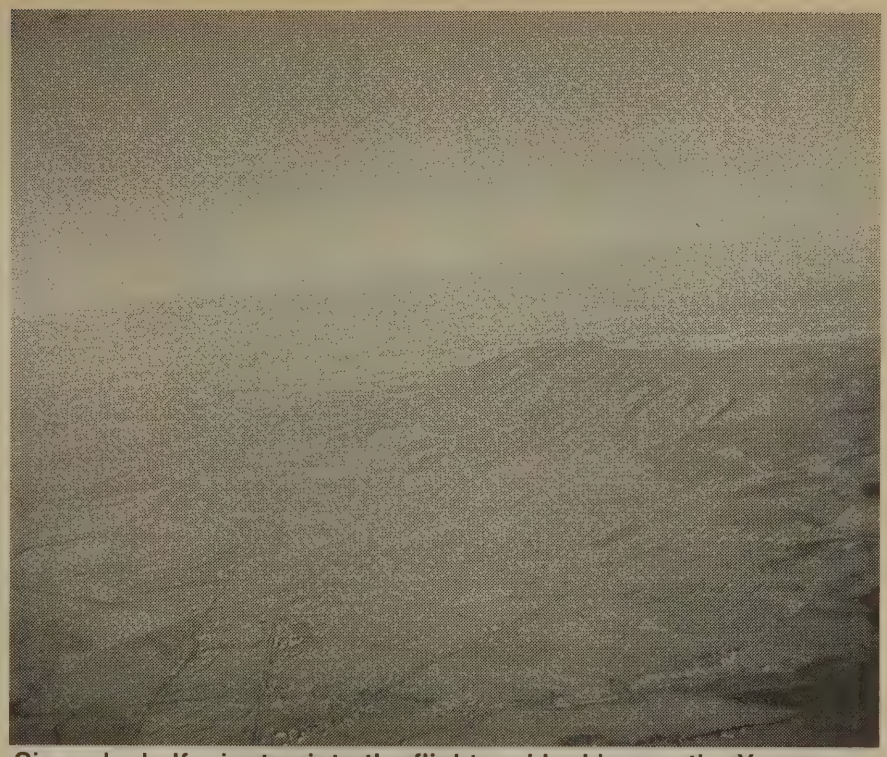
Oregon, like Idaho, is sparse with roads in places. And Prineville, with its mountainous terrain, is a good example. Based on the results of the balloon tracking program, we choose to drive east on the SE Paulina Highway in pursuit of the balloon. We became concerned when the balloon began taking a slightly more northerly route than predicted. But before doubling back, we stopped the cars and piled out to look for the balloon. It took a bit of searching, but there, 80,000 feet above our heads, we saw a white dot, or star, in the blue sky. I estimate we saw the balloon when it had expanded to a diameter of 20 feet (it launched with a diameter of six feet). At this time, the balloon was nearing its maximum predicted altitude, so we waited around rather than head back to town. We wanted to see the balloon burst. And we weren't disappointed. Before long the white star faded out.

We thought that if we were lucky, we could still get close enough to watch the near spacecraft land. So we drove as fast and as safe as we could back up the road towards Prineville. By the time we got to Prineville and Highway 26, it was apparent the balloon was going to recover on a forested mountain. I became concerned this would become a difficult recovery, but we had boy scouts and the national forest roads were pretty good in this area.

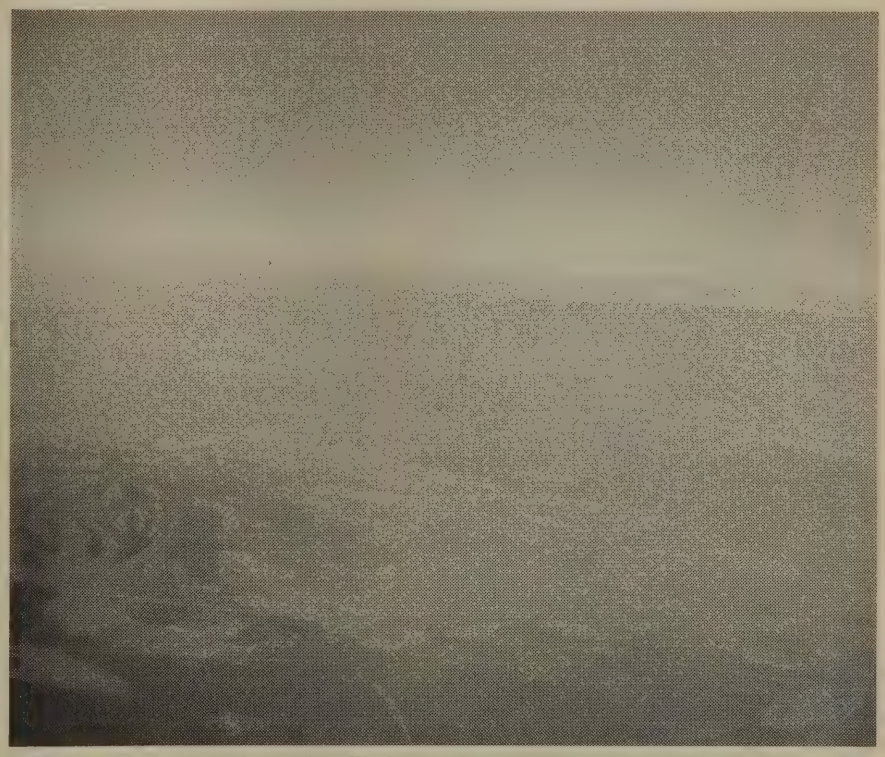
Our APRS records were good nearly all the way to landing, giving us an accurate recovery location. There was no road close to the recovery zone, so we stopped the cars and prepared to hike. The hike was nice, but over a mile long. There wasn't much in the way of trails, but the forest floor was opened enough that we could hike through without much difficulty.

When we got close, the near spacecraft's audio beacon could be heard. The only problem is that the beacon was located near the top of a 50 foot tall pine tree. We could see the near spacecraft, hanging up in the tree, suspended beneath its parachute. But we had no way of climbing such a large tree to get it down.

There's lots of dead fall in a forest like this. So a parent found a nearly 50 foot tall downed tree. Several of the parents and I lifted it up against the tree and tried wrapping it around the parachute's shroud lines. After a lot of effort, we managed to wrap the parachute and pulled the near spacecraft free of the tree. In the process, however, we managed to rip the parachute. It's a minor rip, only about 18 inches long. So some day I'll have ask Rachel to try her hand at using the sewing machine to fix the parachute. I really like this parachute because it was a donation from a rocket club and its fluorescent orange in color.



Six and a half minutes into the flight and looking north. You can barely make out the nearest volcano to the area, Mt. Bachelor, on the horizon.



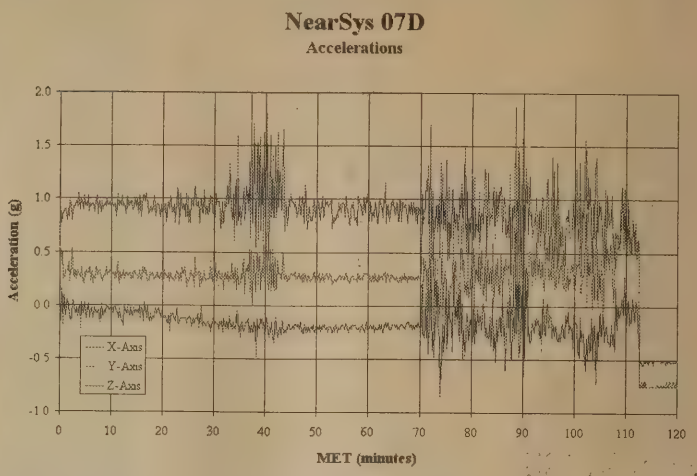
Thirteen minutes into the flight and we can see the Three Sisters, another set of volcanoes in central Oregon.

Results

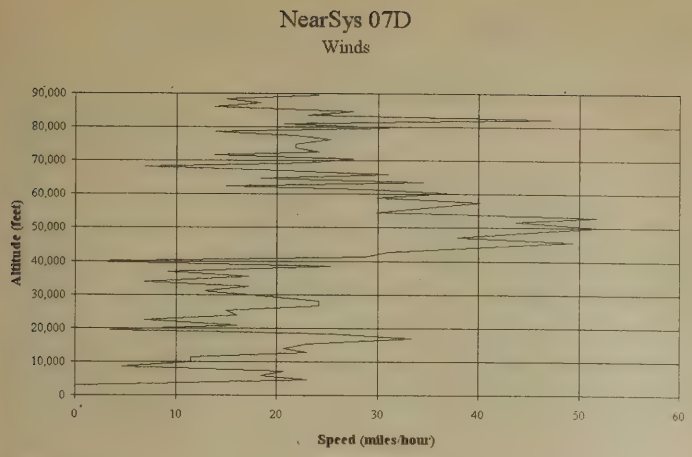
The camera onboard recorded images every 30 seconds. Most of them are pretty boring, but because so many images were recorded, there are a few gems to share with you, the reader.

Seventy-two minutes into the flight and we can see Mt. Bachelor. This is one of my favorite near space images. The snow-capped volcano below and the gibbous moon above combine to make for a great image.

The other data recorded on this flight was used to generate these charts.



You can see that the shaking experienced by the near spacecraft reached a peak between 35 to 45 minutes into the flight. This is at the point where the balloon's ascent rate dropped from 1,200 to 1,000 feet per minute. The turbulence that occurs when this happens really stands out in the chart. The increased range of accelerations at 70 minutes illustrates the tumbling that the near spacecraft experiences during descent.

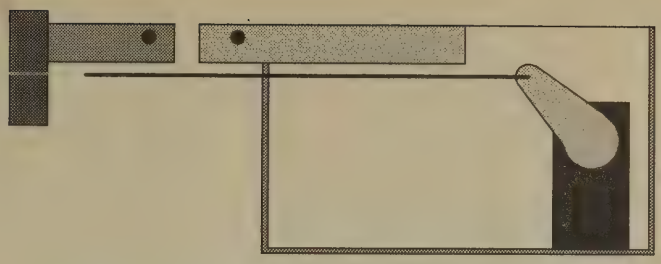


The winds were pretty mild this flight since the Jet Stream was far away. What piece of the Jet Stream we managed to bite occurred at 50,000 feet, a typical altitude for summer and early autumn.

A Glider Release Mechanism for Near Spacecraft

To allow the release of a payload in a near space mission, I have developed a release mechanism suitable for light weight payloads that I call a Dropper. I've used it to release gliders and other payloads under parachutes. Here's how you can make a Dropper similar to the one I used on NearSys 07D.

Essentially, the Near Space Dropper is a plywood box containing a servo and plastic tube. The payload to be dropped, on a parachute or glider please, is held to the Dropper by the Release Wire pushed out of its plywood box by the servo. Trapping the payload is the Catch that slides into the plastic tube of the Dropper. The beauty of this is that the Release Wire is fully



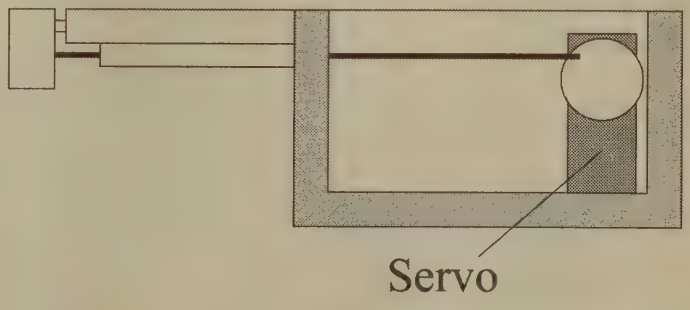
A simplified x-ray diagram of the Dropper with it's components labeled.

exposed, so it's easy to load the looped cord of the payload over it. Then the Catch slides into the Dropper's tube trapping the payload's looped cord over the Release Wire.

The Catch consists of two pieces glued together. First there's a plastic tube that's small enough to slide into the plastic tube of the Dropper. This plastic tube is capped with the second piece, a small length of basswood. The basswood cap has a small hole drilled in it where the Release Wire sticks into it. To prevent the Catch from slipping out of the Dropper and letting the payload drop away, there's a hole drilled through both the Catch's plastic tube and the Dropper's plastic tube. The holes line up when the Catch is slipped inside the Dropper so a short length of wire twist tie can slide through both holes, locking the two plastic tubes together.

To operate the servo, I use the following BASIC Stamp code. Note that your code values will depend on the placement of the servo in your Dropper, so experiment with them. However, watch the servo carefully while you experiment; you don't want to over drive the Release Wire inside the Dropper.

The Dropper with its Release Wire extended. Now's the time to load the loop of the payload over it.



The Dropper's Release Wire is now fully retracted. At some point the Release Wire has been pulled back, releasing the payload.

```
'Extending the Release Wire
X VAR BYTE
SERVO CON 12
EXTEND CON 550
RETRACT CON 650

FOR X = 1 TO 30
  PULSOUT SERVO,EXTEND
  PAUSE 20
NEXT

'Retracting the Release Wire
X VAR BYTE
SERVO CON 12
EXTEND CON 550
RETRACT CON 650

FOR X = 1 TO 30
  PULSOUT SERVO,RETRACT
  PAUSE 20
NEXT
```

For this code, the servo of the Dropper is connected to I/O pin 12 of the BASIC Stamp (hence the line, SERVO CON 12). The Release Wire is extended far enough when the servo is given a pulse width of 550 (1.1 milliseconds) and retracted far enough when the servo is given a pulse width of 650 (1.3 milliseconds).

The Extend code must be executed before the mission so the payload can be loaded. The Retract code is executed during the mission when it's time to release the payload. Please do not drop something dangerous on a near space mission. One ideal payload is a low-power crystal transmitter for fox hunting. Imagine the fun fox hunters could have chasing a fox that's parachuting from 50,000 feet. Even better yet, a thermistor could be part of the circuit to indicate the temperature the beacon is sensing.

Onwards and Upwards,
Your near space guide

Collection of ATV Hams Info

I'm trying to Make a DATA Base of ATV FastScan Hams That I'll put into my Google map of FastScan ATV Hams in the U.S.A..

This takes only a minute to do. If you have time please fill out the INFO on one of the page
http://home.columbus.rr.com/cbeener/GMapATVQ.html

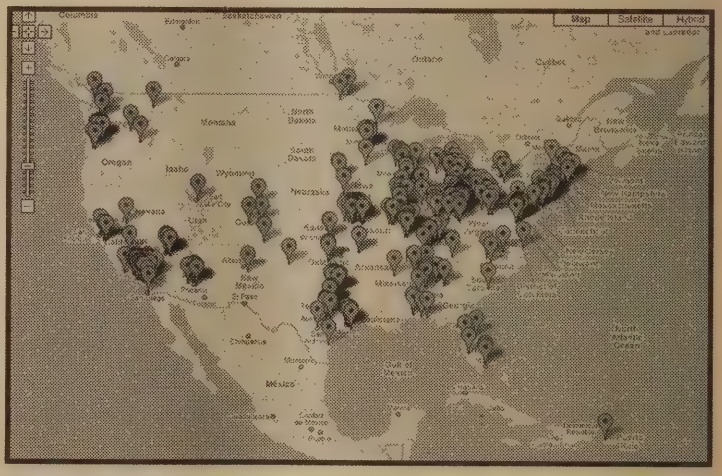
http://home.columbus.rr.com/cbeener/GMapATCO.html

and then Press Send it! button. That will send me your Ham Call and the band that you have checked on the page.

The INFO box for the marker will also show that info along with your EMail: address if you click the EMail box. If you don't check the EMail box I will not post your EMail address in the marker popup box.

The new map will have the Markers colored coded for each Band that you operate. Like 70cm only will be Red, 23cm only will be Green and if you operate both 70cm & 23cm it will be Red/Green in color. ETC.

Charles - WB8LGA



Press Release GPSL 2008

Photos of GPSL 2007

Our Mission

The Great Plains Super Launch is the premier conference for near space explorers and enthusiasts dedicated to the education and study of aerospace science.

When:

July 31 - Aug 3, 2008

Where: William Jewell College,

500 College Hill,
Liberty, MO

Map: http://maps.google.com/maps?q=William+Jewell+College,+500+College+Hl,+Liberty,+MO&hl=en&ie=UTF8&ll=39.248839,-94.410453&spn=0.015487,0.033259&z=15

Schedule:

Thursday, August 01 --
Static Displays Workshops
Tour of Pillsbury Observatory

Friday, August 01 --
Conference Presentations
Pre-Flight Brief .

Saturday, August 02 --
GPSL Balloon Flight Victory Dinner

Sunday, August 03 --
Weather Day Launch Departure

For more information:
www.superlaunch.org

GPSL (Great Plains Super Launch) is an annual event for amateur radio and high-altitude balloon hobbyists to gather to share information and launch multiple balloons for recovery. In the effort to launch and track Simulated Satellites to the 100,000 foot altitude of Near Space, these groups must apply their knowledge of balloon, weather prediction, amateur radio telemetry and engineering.

2008 Hosts

GPSL co-hosts Near Space Ventures and CAPnSPACE are not-for-profit Missouri Corporations dedicated to the advancement of Aerospace Education, with an emphasis on low cost access to Near Space, using high-altitude balloons and amateur radio. They are recipients of the Central Region 2006 Frank G Brewer Award. Read more at nearspaceventures.com.

ATN NEWSLETTER 2007

On the Air to Coast to Coast
W5ATN W6ATN W7ATN W9ATN K9ATN

ATN Chapters & Presidents

ATN-AZ	ATN-CA	ATN-CAT	ATN-GA	ATN-IL	ATN-IN	ATN-NV	ATN-NM
Ron	Don	Ron	Ralph	John	Henry	Geoff	Earl
AE6QU	KE6BXT	K3ZKO	N4NEQ	KA9SOG	AA9XW	KB7BY	N8TV

You can renew by mail by sending your dues donation to the ATN chapter secretary/treasurer in your state listed on the ATN website (new member/renewal form) **www.atn-tv.org**

ATVQ: Gene, WB9MMM, with the help of the contributing editors has done a great job this past year with more technical articles and ATV news worldwide. ATVQ is a must read item for every ATVer! Check it out at **www.hampubs.com.**

DAYTON 2008 Planned Activities:
ATV FRIDAY NIGHT DINNER:
The ATN/ATV Friday night dinner and meeting will be at 6 PM located at Roush's Restaurant, 305 W. Main St., Fairborn, OH. For those of you with GPS: 39-49-19N 84-01-30W Phone: (937) 878-3811. Door prizes were donated in past dinners thanks to some of the ATV vendors perhaps we will be lucky this year. Many thanks to Art Towslee who made the arrangements for the meeting place,

DAYTON SATURDAY ATV FORUM:
The forum will start at 11:30 and end 13:30 in room five. Our host, Columbus Ohio's famous Art Towslee has a fantastic line up of guest speakers talking on the following subjects: Digital ATV, linking ATV repeaters featuring the new ATN controller, mobile and balloon ATV, public service with ATV and more. This is a great place to get the latest information from the ATV community and its ATV experts.

ATN Shirts and Jackets:
Mike has negotiated great prices for ATN shirts and Jackets this year and the largest order ever has been made. J & M Silk-screening is the company we use and Shirts are $12, Jackets are $24. Your Name and Call embroidered is $6 per each garment ordered, XXL add $2, XXXL add $3, sale's tax of 7.75% and you have it.

Mike will bring the garments to the ATN breakfast when the order is done for distribution. Alternative delivery methods can be provided usually by UPS or US mail at his cost. The shirts and jacket prices are our costs only to get you the best price we can. If you have not yet ordered a jacket contact Mike Collis WA6SVT at **wa6svt@aol.com** When we make a group order to the vendor, we need any combination of 12 garments as a minimum order. At Don's direction we purchased one each of large and extra large shirt/jacket with no embroidery for late orders.

ATN WEBSITE:
Don, KE6BXT, has the website looking great! Don is still looking for digital photos of your ATV studio (shack), please email them to Don at **ke6bxt@qsl.net** so it can be included on the website.

ATN-AZ NEWS:
WHITE TANK MT:
Ward, K7PO, replaced the 1253.25 MHz modulator with one provided by Mike, WA6SVT. Ward replaced the power supply and ran tests with Ron, AE6QU, to get everything tested and working.

MT. LEMMON:
The repeater is working well and is back at full power with a rebuilt power amplifier that Mike, WA6SVT, put in enhancement mode FET bricks to replace the bad bipolar ones. The amplifier is also installed on a larger heatsink with fan cooling and mounted on a rack plate.

During August Ron, AE6QU, Mike, WA6SVT, and Miguel, KD7RPP, connected the 2417 MHz link heliax and aimed the dish antenna, it was difficult due to the thunder storms that developed during the afternoon and with rain. Ron is working with an electronics/ham radio class that sponsors a ham radio club "Pueblo Amateur Radio Club" at Pueblo Magnet High School in Tucson.

The kids, five licensed with 27 more getting ready for their ham tickets are using ATV through the repeater. They transmitted the live contacts with the space station via the repeater too and had lots of broadcast TV coverage of the communications from Tucson TV stations. Miguel, KD7RPP, is their instructor at the school and the one who has set up the club and inspired the students.

These fine students have supported the site rent at Mt. Lemmon and this is very much appreciated and in my opinion should qualify them for membership in ATN-AZ Chapter. If the licensed students from Pueblo would contact me, I would be glad to add them to the ATN member's list (we only list name, call and city, email optional).

ATN-CA NEWS:

ATN SUMMER BBQ MEETING:
The 2007 BBQ was at the Simi Valley Senior Center. It was well attended and we had a great time.

WINTER MEETING:
This year's meeting featured the new ATN controller designed and demonstrated by Robert, KA4JSR. The controller has 16 inputs and eight outputs, It can control two tower cameras, the NBFM voice repeater / command channel, remote base / ATV intercom. It has graphics overlay and remote level controls. Programming via RS 232 with a laptop computer for exact configuration for each site. The controller is planned for Santiago Peak installation late May or early June.

Our 2008 recipient of the President's Award is George, AC6EB, for his work providing the streaming video of Santiago Peak Repeater along with all the repeaters linked to it over the internet. George's site is one of the most watched sites of streaming ATV. Congratulations!

We had several members attend and participate including some from Nevada and Arizona. Mike, WA6SVT, gave a detailed financial report. We had repeater updates and input from the members about the repeaters and election of officers. Don remained president and Robert, KA4JSR, is our new Vice President. We also want to give thanks to Allan, W6IST, for all his service as our past V.P.

2008's BBQ
This year, Don, KE6BXT, has offered his QTH for a BBQ. The date and time is to be determined.

ORANGE CO. FAIR:
Gordon, WB6NOA, and Don, KE6BXT, have set up an ATV station at the fair this year and currently active introducing the public and Hams to ATV. Robbie, KB6CJZ, has been helping with the station too. Thanks guys for promoting ATV! Plans are being made to participate in this year's fair too.

Presidents Corner:
(Editors note) Don has a full size letter "Message from the President" on the ATN website **www.atn-tv.org** for the membership.

REPEATERS:

Point Loma:
Robert, KA4JSR, and Mike, WA6SVT, have been busy building a link transmitter to connect the repeater to Santiago Peak, more news when we put it into service in a few weeks when both of our schedules allow the time.

SANTIAGO:
No major changes to the basic repeater. Links have changed a bit. Palomar ARC has decided to not re-establish the link from Valley Center to Santiago Peak. For sometime, the signal level has been very low due to blockage of the Santiago receive antenna from the tower next door. Also there were some issues with temporarily using the port set aside for Palomar while testing the new link from Mt. Wilson

OAT MT:
The repeater has 2441.5 MHz back in service thanks to Rick, and Mike, WA6SVT. Chuck and Allan, W6IST, have located the link cable that had water in it and fixed and sealed the connection. They report that the feed needs to be fine tuned to minimize the VSWR. Thanks to all who helped.

BLUERIDGE MT:
The repeater's 30 watt amplifier dyed and Mark, W6MAF, walked in though the snow (4 miles) and has the repeater on exciter power only all 10 milliwatts. Two weeks later he walked back in again and installed the replacement amp that Mike, WA6SVT, put together. Mike is packaging a new 150 watt amplifier and builds up a driver for it. Thanks Mark for the long walks to the mountain through the snow.

MT. WILSON:
A 2442.5 MHz antenna has been added. The receiver is built and Mike, WA6SVT, plans to update the controller to add the 2nd input. Mike added a 5 GHz FM two-way link to connect Mt. Wilson and Santiago Peak. Merv, KO6E, helped with a sizable donation to share in the purchase of equipment for the link. Thanks Merv.

SANTA BARBARA:
Rod reports that he has been doing level calibration on the repeater and wants to set up time to have someone on site and Santiago at the same time to peak up both dish antennas to get more signal on the return link. At present time Santiago Peak gets about –81 dBM signal and most of the time the link is not very good. We need a bit more signal to get reasonable performance.

The officers of the California chapter wish to thank the several members for their generosity who have sent in extra donations this year. Bruce, WA6ILG, has made a large donation each year since he joined.

ATN-IL NEWS:
MEETING:
The meeting was held December 15th with eight members participating. Gene gave the financial report. Election of officers with results: President, John, KA9SOG, V.P., Dan, KC9ATR, and Sec/Tres, Gene, WB9MMM.

ATV was provided to RARA Rockford's local radio club on Field Day with a few contacts made. Discussion and approval to add an overlay board to the tower camera for use as the repeater ID source. The club decided to change polarization of the 1.2 GHz input to horizontal.

REPEATERS:
ROCKFORD:

Gene reports the repeater is working well and he also wants to change the 1250 MHz FM receiver's IF from 27 MHz to 17 MHz to improve performance.

The DTMF decoder was fixed (a bad wire). NASA select was added as an input upon command.

Currently the 1250 MHz input is on a dipole but Gene, WB9MMM, reports a slot antenna is under construction to improve the gain and allow stations outside Rockford to access the repeater as simplex 1200 MHz band ATV is Horizontal near Chicago so the repeater will soon no longer have vertical polarization on that input.

A note from the editor: I would very much like to print news from the other ATN chapters not listed in this edition of the newsletter. It would be nice to hear what's happening in your chapter, thanks.

Mike, WA6SVT, editor

ATVQ TO PAY FOR ARTICLES!

Payment for Technical Articles

ATVQ will pay for certain articles that it publishes. I will outline the policy here, but it will be subject to change as needed to make sure that ATVQ continues to be an ongoing publication. ATVQ will pay $25.00 for technical articles that are published and are a minimum of 2 pages. While this is not a great amount, I hope it will encourage more technical type articles to be written. Exceptions will be articles that are written by a manufacturer/seller of equipment that is being written about. While I do not want to discourage this type of article, the article itself is an advertisement of the product. Articles from clubs will be encouraged, and I would expect they would like to share their information with the ATVQ readership. Information gathered from the Internet will not be paid for and is mostly small filler items.

Ideas

Do you have an idea for an article that you've said to yourself that you wanted to write, but never did. Feel free to check with us to see if it is of interest, or write and send it in. No guarantees that it will get published, but if you don't try, you will never know. I'll be looking to see what you can do!

CONTRIBUTORS GUIDE

Preferred method of receiving articles is from **Microsoft Word**, however **Wordperfect** is OK too. Next preference would be **ASKII text**, followed by **typewritten** or **hand written** (clearly). Diagrams or pictures (B&W or Color) can be sent in hard copy, or if you scan them in, save to PCX or JPG formats (actually I can read about anything). If you send a computer disk, make sure it is PC (not MAC) format.

When sending in articles in Microsoft Word, please SAVE with FASTSAVE OFF and save in Word 6 format. Also, articles written in any word processor, consider what will happen when it is re-formatted to fit the style that I might put it in. An example would be setting up tables or adding figures into the article. They can be very hard to strip out. If possible, put the tables, figures, each in a file by itself. This will help me to be able to import into the magazine format.

Articles can be sent to:
ATVQ, 5931 Alma Dr., Rockford, IL 61108

or to our email address: **atvq@hampubs.com**
Also note our web page address: **http://www.hampubs.com**

Thanks to all the fine stores that carry Amateur Television Quarterly

Burnaby Radio Comm Ltd.
4257 E. Hastings St.
Burnaby, BC
Canada V5C 2J5

Ham Radio Outlet
1939 W. Dunlap Ave.
Phoenix, AZ 85021

Ham Radio Outlet
6071 Buford Hwy
Atlanta, GA 30340

Ham Radio Outlet
224 N. Broadway
Salem, NH 03079

Ham Radio Outlet
2492 W. Victory Bl.
Burbank, CA 91506

Ham Radio Outlet
933 N. Euclid St.
Anaheim, CA 92801

Radio City
2663 County Rd I
Mounds View, MN 55112

The Radio Place
5675 A Power Inn Rd.
Sacramento, CA 95824

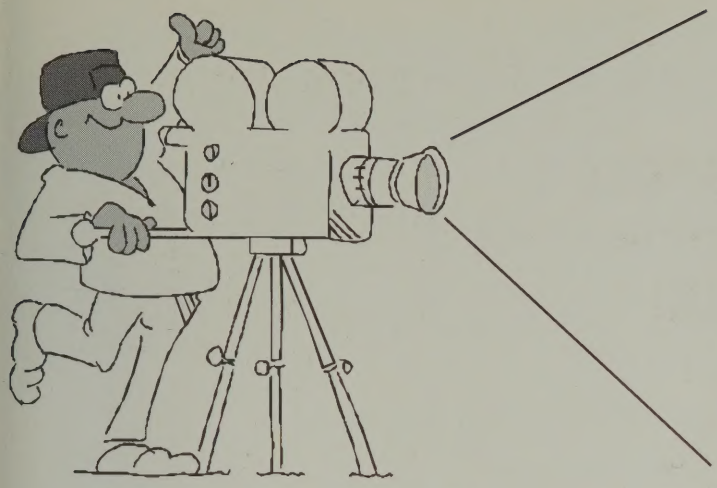
Do you know of a store that would like to carry ATVQ? Please let us know and we will contact them.

ADVERTISERS INDEX

Please mention that you saw it in
Amateur Television Quarterly!

ATVQ on the Newsstands

If you find a store willing to carry ATVQ on their shelves, we will extend your subscription by one year. In the case that two people turn in the same store, the first one wins! Offer subject to change at any time, but not likely to!



ADVERTISE IN ATVQ!

ATV'ers are hams that build projects more than other hams. They have a varied background ranging from technician to engineer, and just might see a need for your product in their regular job as well as in their hobby. I hope to hear from you soon.

Please call TODAY!

Gene Harlan - WB9MMM - Editor/Publisher

RESERVE YOUR SPACE TODAY!

1-815-398-2683 - voice

1-815-398-2688 - fax

DEADLINES			
COVER DATE	COPY DEADLINE	TO PRINTER	MAILING DATE
WINTER	JANUARY 1	JANUARY 15	FEBRUARY 1
SPRING	APRIL 1	APRIL 15	MAY 1
SUMMER	JULY 1	JULY 15	AUGUST 1
FALL	OCTOBER 1	OCTOBER 15	NOVEMBER 1

AD RATES Effective November 19, 2004		
	INSERTIONS PER YEAR	
SIZE	1-3	4 up
FULL PAGE COLOR	$650	$500
FULL PAGE B&W	$160	$140
ADDITIONAL COLORS/PAGE	$100	$100
1/2 PAGE B&W H or V	$110	$80
1/4 PAGE B&W H or V	$85	$55
1/6 PAGE B&W H or V	$55	$38

Multi-page ads are billed at the combined rate based on frequency.
Covers are reserved for COLOR ads.
All typesetting and layout charges for non-camera ready ads will be added.
Covers II, III, IV $30 extra.
If negatives are not provided for color ads, add $50.

While we will try to adhere as close as possible to the above dates, we reserve the right to adjust as needed.

If material is going to be late, please call to check if it will meet our schedule. We will try to accommodate everyone as best as we can.

Camera ready art or negative film right reading down is acceptable.

Trim Size: 8 1/2 x 10 7/8
Bleed Size: 1/8" beyond trim
Live matter: 1/4" within border

Harlan Technologies reserves the right to reject any advertising which is not in keeping with the publishers standards. Previous acceptance of any ad will not prevent Harlan Technologies from exercising the right to refuse the same advertisement in the future. Advertising orders are subject to the terms on the current rate card. Advertisers assume all responsibility and liability for any claims arising from advertisements and will protect the publisher from same.

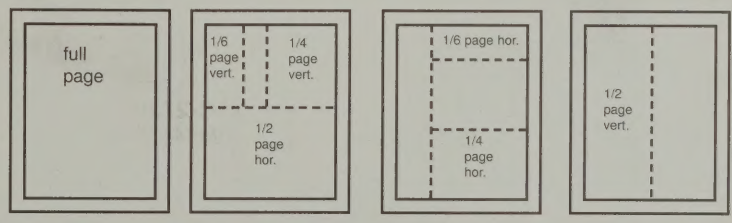
Harlan Technologies will position ads in ATVQ at its discretion except in the case of preferred positions specifically covered by contract or agreement.

If, for any reason, the publisher fails to publish an advertisement, it will not be liable for any costs or damages, including direct or inconsequential damages.

Terms: All accounts not pre-paid are billed net 30 days. All accounts over 30 days are billed at 1 1/2% per month. Prompt payment is always appreciated.

RESERVE YOUR SPACE TODAY!
1-815-398-2683

AD SIZES	VERTICAL		HORIZONTAL	
	Width	Height	Width	Height
FULL PAGE	7"	10"	---	---
1/2 PAGE	3 1/2"	10"	7"	5"
1/4 PAGE	3 1/2"	5"	5"	3 1/2"
1/6 PAGE	2 1/4"	5"	5"	2 1/4"



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